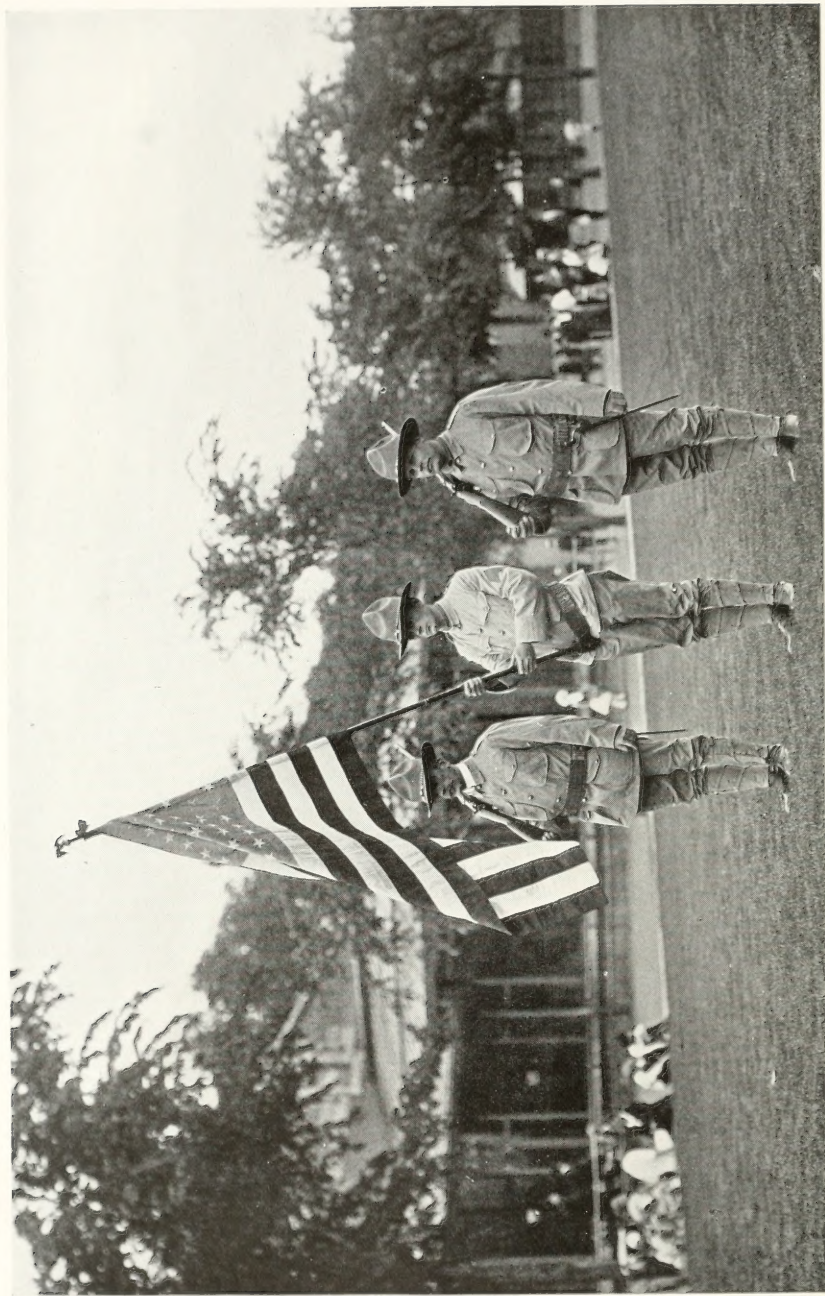




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Pres. Henry Fairfield Osborn, on behalf of the Board of Managers of the Society, presented this beautiful flag to the Park Guards on May 17, 1917.

P
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TWENTY-SECOND ANNUAL REPORT
OF THE
NEW YORK
ZOOLOGICAL SOCIETY

CHARTERED IN 1895

OBJECTS OF THE SOCIETY
A PUBLIC ZOOLOGICAL PARK
THE PRESERVATION OF OUR NATIVE ANIMALS
THE PROMOTION OF ZOOLOGY

1917



NEW YORK
OFFICE OF THE SOCIETY, 111 BROADWAY
JANUARY, 1918

UNIVERSITY OF TORONTO

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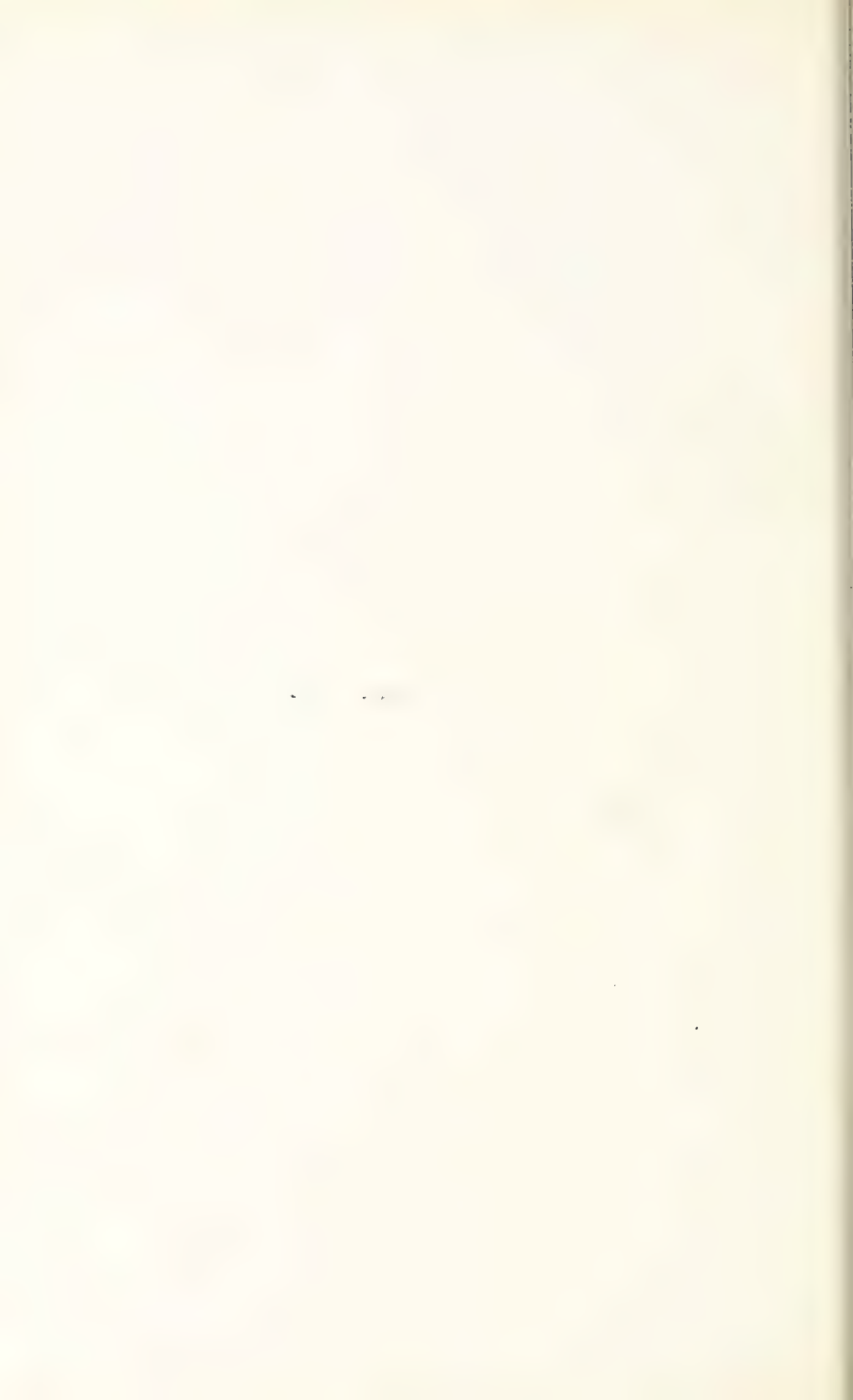
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 FERGUSON, WILLIAM C.,
 FEUSS, CAPT. ANDREW W.,
 FEUSTMAN, LEON P.,
 FIELD, MRS. AUGUSTUS B.,
 FIELD, MRS. WILLIAM H.,
 *FIELDING, GEORGE T.,
 FINCH, EDWARD B.,
 FINCKE, MRS. REGINALD,
 FISCHER, WILLIAM H.,
 FISHER, PROF. IRVING,
 FISHER, L. G.,
 FITZGERALD, MRS. LOUIS,
 FLAGLER, HARRY HARKNESS,
 FLANNERY, MRS. JOSEPH A.,
 FLEISCHMANN, UDO M.,
 FLEITMANN, FREDERICK T.,
 FLEMING, HENRY S.,
 FLEMING, MATTHEW C.,
 FLINT, AUSTIN,
 FLOYD-JONES, EDWARD H.,
 FOHR, FRANZ,

*DECEASED

- FOOT, SANDFORD DWIGHT,
 *FOOT, JAMES D.,
 FORAN, GEORGE J.,
 FORD, MISS LESTA,
 FORDYCE, JOHN A.,
 FOSTER, EDWARD W.,
 FOSTER, GIRAUD,
 FOSTER, MACOMB G.,
 FOSTER, SCOTT,
 FOWLER, MRS. ANDERSON,
 FOWLER, JR., CHARLES,
 FOX, MISS ALICE BLEECHER,
 FOX, HUGH F.,
 FRANK, LOUIS,
 FRANKO, NATHAN,
 FRASER, ALEX. J.,
 FRASER, ALEX. V.,
 FRASER, MRS. GEORGE C.,
 FRASER, MISS J. K.,
 *FRASER, WILLIAM C.,
 FREEMAN, MISS GERTRUDE A.,
 FRENCH, DANIEL C.,
 FRENCH, MRS. JOHN,
 FRIES, DR. HAROLD H.,
 FRISSELL, A. S.,
 FROST, AARON V.,
 FROTHINGHAM, JOHN W.,
 FULD, FELIX,
 FULLER, CHARLES D.,
 FULLER, MRS. EUGENE,
 FUNKE, EDMUND A.,
 GAILLIARD, MRS. WM. O.,
 GALLATIN, ALBERT,
 GALLATIN, MRS. ALBERT,
 GALLATIN, GOELET,
 GALLATIN, MRS. GOELET,
 GALLAWAY, MERRILL W.,
 GALLOWHUR, W. G.,
 GARDINER, CHARLES B.,
 GARRARD, MISS MARGARET H.,
 GARRETT, MISS LAURA B.,
 GARRETT, JOHN W.,
 GARRISON, MRS. J. H.,
 GASS, FRANK,
 GAUTIER, DUDLEY G.,
 GAY, JOSEPH E.,
 GEDDES, DONALD G.,
 GEER, MRS. WALTER,
 GERRISH, JOHN BROWN,
 GERRY, PETER G.,
 GERRY, ROBERT L.,
 GILBERT, CLINTON,
 GILLESPIE, ROBERT McM.,
 GILLIES, EDWIN J.,
 GILSEY, HENRY,
 GLAZIER, HENRY S.,
 GLYN, W. E.,
 GOADBY, W. H.,
 GODDARD, MRS. FREDERIC N.,
 GODFREY, MRS. E. D.,
 GOLDMAN, ALBERT,
 GOLDMANN, JULIUS,
 GOLDMANN, NATHAN,
 GOOD, REV. ALBERT,
 GOODHUE, CHARLES E.,
 *GOODHUE, MRS. S. C.,
 GOODWIN, GEORGE B.,
 GOODWIN, GRENVILLE,
 GOODWIN, H. SAGE,
 GOODWIN, JAMES L.,
 GOODWIN, MRS. J. J.,
 GOODWIN, JOHN B. L.,
 GOODWIN, WALTER L.,
 GOODWIN, JR., WALTER L.,
 GORDON, MISS CLARA J.,
 GOTTHIEF, CHARLES,
 GOTTHIEF, HERMAN,
 GOTTHOLD, ARTHUR F.,
 GOTTHOLD, FREDERIC,
 GOULD, CHARLES A.,
 GOULD, CHARLES W.,
 GOULD, DR. FREDERIC S.,
 GOULD, EDWIN,
 GRAHAM, MRS. GEORGE S.,
 GRAF, WILLIAM,
 GRANT, LAWRENCE,
 GRAVES, JR., HENRY,
 GRAVES, GEORGE COE,
 GRAVES, J. P.,
 GRAY, MRS. AUSTEN,
 GRAY, HENRY G.,
 GREEFF, ERNEST F.,
 GREENE, JR., G. S.,
 GREENOUGH, JOHN,
 GREENOUGH, MRS. JOHN,
 GREENWOOD, JOSEPH R.,
 GREER, CHARLES,
 GREER, MRS. LOUIS MORRIS,
 GRIEB, WILLIAM G.,
 GRIFFITH, MISS MARGARETTE E.,
 GRIFFITH, MISS SUSAN D.,
 GRIGG, HARRY K.,
 GRINNELL, F. MORGAN,
 GRISCOM, JR., CLEMENT A.,
 GRISWOLD, MRS. F. GRAY,
 *GRISWOLD, GEORGE,
 GROSS, FRANK,
 GRUNDNER, M.,
 GUGGENHEIM, HARRY F.,
 GUGGENHEIM, SIMON,
 GUGGENHEIMER, MRS. ELIZA,
 GUITERAS, DR. RAMON,
 GUINZBURG, A. M.,
 GURNEE, WALTER S.,

*DECEASED

HAAS, GEORGE C.,
 HACKETT, JAMES K.,
 HAEFFEN, JOHN M.,
 HAGARD, ROWLAND GIBSON,
 HAGE, JOHN D.,
 HAIGHT, CHARLES S.,
 HAINES, CHARLES D.,
 HAINES, HENRY F.,
 HALLOCK, CHARLES P.,
 HALL, A. C.,
 HALL, ARTHUR H.,
 HALL, FRANK L.,
 HALLE, JACQUES S.,
 HALLS, JR., WILLIAM,
 HALSEY, CHARLES W.,
 HALSEY, HERBERT DRAKE,
 HAMANN, WILLIAM A.,
 HAMBLETON, T. EDWARD,
 HAMERSLEY, LOUIS GORDON,
 HAMILTON, MISS ELIZABETH STEWART,
 HAMILTON, MRS. WILLIAM PIERSON,
 HAMMOND, MRS. JOHN HENRY,
 HAMMOND, OGDEN H.,
 HAMMOND, WILLIAM F.,
 HANCE, JOHN A.,
 *HARD, ANSON W.,
 HARMON, MRS. CLIFFORD,
 HARPER, HARRY,
 HARPER, LATHROP C.,
 HARRIMAN, MRS. HERBERT M.,
 HARRIMAN, W. A.,
 HARRIS, CHARLES C.,
 HARRISON, ARCHIBALD,
 HARRISON, MRS. W. HENRY,
 HART, HAROLD G.,
 HARTSHORNE, J. M.,
 HASSLACHER, JACOB,
 HASTINGS, MR. THOMAS,
 HATHAWAY, CHARLES,
 HAVEMEYER, HENRY,
 HAVEMEYER, J. C.,
 HAVEN, GEORGE G.,
 HAVEN, J. WOODWARD,
 HAVENS, ALBERT G.,
 HAWK, MRS. WILLIAM SAMUEL,
 HAYNES, WILLIAM DEFORST,
 HAZEN, GEORGE H.,
 HECHT, RUDOLPH,
 HECK, GEORGE C.,
 HECKER, DR. ANTON J.,
 HECKSCHER, MRS. AUGUST,
 HEDGES, JOB E.,
 HEIDE, JR., HENRY,
 HELMAN, E.,
 HEINTZ, JOHN C.,
 HEMMING, H. G.,
 HENCKEN, HANCKE,

HENDERSON, JOHN B.,
 HENDERSON, NORMAN,
 HENNING, EMIL F.,
 HENRY, FRANCIS A.,
 HEPBURN, MRS. A. BARTON,
 HERBERT, VICTOR,
 HERMANN, BERNARD F.,
 HERMANN, MRS. FERDINAND,
 HERRICK, HAROLD,
 HERRMAN, MRS. HENRY S.,
 HERTER, MRS. ALBERT,
 HEWITT, HERBERT H.,
 HEWITT, PETER COOPER,
 HEXAMER, A. P.,
 HICKS, JOHN M. W.,
 HIGGINSON, MRS. J. J.,
 HILL, E. B.,
 HICKS, F. PIERPONT,
 HIGGINS, RICHARD H.,
 HILL, ROBERT C.,
 HILLS, DR. ALFRED K.,
 HINCHMAN, WALTER,
 HINCKLEY, MRS. SAMUEL NELSON,
 HINES, MISS HELEN MACFARLANE,
 HIRSCH, CHARLES S.,
 HIRD, SAMUEL,
 HIRSCHLAND, FRANZ H.,
 HOCHSCHILD, BERTHOLD,
 HODGES, HARRISON B.,
 HOE, MRS. ROBERT,
 HOFFMAN, CHARLES FREDERICK,
 HOFFMAN, MISS M. U.,
 HOFFMAN, MRS. WILLIAM M. V.,
 HOGG, JAMES A.,
 HOLBROOK, MRS. EDWARD,
 HOLLISTER, GEORGE C.,
 HOLLISTER, MRS. GEORGE C.,
 HOLT, HENRY,
 HOLTER, MRS. E. O.,
 HOLZMAISTER, LOUIS V.,
 HOOKER, DR. RANSOM S.,
 HOOLEY, EDWIN S.,
 HOMES, HENRY F.,
 HOPKINS, RUSSELL,
 HOPPIN, MISS FRANCES,
 HOPPIN, HAMILTON L.,
 HOPPIN, JR., WILLIAM W.,
 HORNADAY, MRS. J. C.,
 HORB, L. WILLIAM,
 HORSMAN, JR., EDWARD J.,
 HOSKIER, H. C.,
 HOUSMAN, CLARENCE J.,
 HOWELL, T. A.,
 HOWLAND, MRS. HENRY E.,
 HOYT, ALFRED O.,
 HOYT, COLGATE,
 HOYT, MRS. HENRY R.,

*DECEASED

- HOYT, MRS. JESSE.
 HOYT, JOHN S.,
 HOYT, MISS VIRGINIA SCOTT,
 HOYT, WALTER S.,
 HUBBARD, WALTER C.,
 HUFF, E. S.,
 HULSE, RICHARD J. E.,
 HUMPHREYS, MRS. EDWARD WALSH,
 HUNGERFORD, RICHARD S.,
 HUNN, ARTHUR B.,
 HUNTINGTON, MRS. ARCHER M.,
 HUNTINGTON, MRS. ROBERT P.,
 HUNTINGTON, FORD,
 HUNTMAN, REV. GERARD H.,
 HUFFEL, J. CHRISTIAN G.,
 HUSTED, MISS M. KATHARINE,
 HUSTED, JR., SEYMOUR L.,
 HUTCHINS, AUGUSTUS SCHIELL,
 HUTCHINS, HARLEY D.,
 HUTCHINS, JR., MRS. R. G.,
 HUTCHINSON, CARY T.,
 HUYLER, C. D.,
 HUYLER, F. D.,
 HYDE, AUGUSTUS L.,
 HYDE, B. T. BABBITT,
 HYDE, DR. FREDERICK E.,
 HYDE, MRS. E. FRANCES,
 HYDE, MRS. WILLIAM H.,
 HYDE, W. TRUSLOW,
 IBBEKEN, ANTHONY G.,
 IJAMS, J. T.,
 INCHES, GEORGE B.,
 INGERSOLL, ROBERT H.,
 INNIS, WILLIAM R.,
 IRONS, HENRY C.,
 IRVIN, MRS. RICHARD,
 ISELIN, C. OLIVER,
 ISELIN, MISS GEORGINE,
 ISELIN, JOHN H.,
 ISELIN, MISS LOUISE M.,
 ISELIN, WILLIAM E.,
 ISELIN, MRS. WILLIAM E.,
 ISELIN, WILLIAM O'DONNELL,
 ISHAM, CHARLES B.,
 ISHAM, WILLIAM B.,
 ISRAEL, LEON,
 JACKSON, R. HALSEY,
 JACOB, LAWRENCE,
 JACOBI, DR. A.,
 JACOBS, SAMUEL K.,
 JACOBUS, JOHN S.,
 JACQUELIN, HERBERT T. B.,
 JAMES, JR., HENRY,
 JAMES, DR. ROBERT C.,
 JAMES, MRS. WALTER B.,
 JAMES, MRS. WORTHAM,
 JENKINS, A. W.,
 JENKINS, MRS. GRACE HARTLEY,
 JENKINS, MRS. HELEN H.,
 JENKINS, J. D.,
 JENKINS, WILLIAM B.,
 JENKS, ROBERT I.,
 JENNINGS, FREDERICK B.,
 JENNINGS, SIDNEY J.,
 JENNINGS, WALTER,
 JESUP, MRS. JAMES R.,
 JESUP, RICHARD M.,
 JOHN, ROBERT,
 JOHNES, WILLIAM FOULKE,
 JOHNSON, F. COIT,
 JOHNSON, GUY B.,
 JOHNSON, GILBERT H.,
 JOHNSTON, J. HERBERT,
 JOHNSTON, WILLIAM J.,
 JONES, MRS. A. MASON,
 JONES, MRS. CADWALADER,
 JONES, CHARLES H.,
 JONES, H. BOLTON,
 JONES, DR. ISRAEL C.,
 JONES, LEWIS Q.,
 JUDSON, H. I.,
 KAHN, FELIX E.,
 KAHN, LOUIS,
 KAHN, DR. ROBERT J.,
 KARCHER, FRANK J.,
 KANE, MRS. DELANCEY,
 KARELSEN, EPH. A.,
 KAST, DR. LUDWIG,
 KAUFMAN, S.,
 KAUPF, WILHELM,
 KAUTZ-EULENBERG, MISS P. R.,
 KEAN, HAMILTON FISH,
 KEAN, MRS. HAMILTON FISH,
 KEECH, FRANK B.,
 KEELER, MRS. C. B.,
 KEEN, BARTON L.,
 KEIL, HENRY F.,
 KELCHNER, WILLIAM W.,
 KELLOGG, J. PRENTICE,
 KELLY, HORACE R.,
 KENNEDY, EDWARD G.,
 KENNEDY, MRS. JOHN STEWART,
 KENNEDY, MRS. VAN RENSSLAER,
 KENNERLY, MISS M. M.,
 KENT, EDWIN C.,
 KEPHART, REV. WILLIAM H.,
 KEPPEL, DAVID,
 KERNAN, MRS. WALTON N.,
 KETCHAM, IRVING M.,
 KEUFFEL, W. G.,
 KEYES, MRS. CHARLES W.,
 KEYSER, MRS. SAMUEL,
 KIMBALL, ALFRED R.,
 KING, AUGUSTUS F.,

KING, MISS ELLEN.
 KING, MISS ETHEL.
 KING, JAMES GORE.
 KING, MRS. J. HOWARD.
 KING, MRS. JEROY.
 KINGSBURY, NATHAN C.,
 KINGSLAND, MRS. WILLIAM M.,
 KINGSLEY, W. M.,
 KINNEY, WARREN.
 KINNEY, MRS. WARREN.
 KIRKHAM, WILLIAM B.,
 KIP, W. RULOFF.
 KISSAM, MRS. MAUDE.
 KISSEL, MRS. W. THORN.
 KITTRIDGE, SAMUEL DANA.
 KITZ, JOSEPH.
 KLAU, MARC.
 KNAPP, ARNOLD.
 KNAPP, JR., MRS. HARRY K.,
 KNAPP, MRS. JOSEPH PALMER.
 KNIGHT, CHARLES R.,
 KNOEDLER, ROLAND F.,
 KOEHLER, H. C.,
 KOHLMAN, CHARLES.
 KOHLSAAT, MISS EDITH M.,
 KOLB, JR., GEORGE C.,
 KOLB, FREDERICK.
 KOLES, DR. HENRY M.,
 KONTA, ALEXANDER.
 KRAUS, SAM,
 KRECH, MRS. ALVIN W.,
 KREMER, WILLIAM N.,
 KREMER, MRS. WILLIAM N.,
 KRUNSCHIED, C. D.,
 KUHN, JULIUS.
 KUHN, AUGUST.
 KUEMPEL, MAX.
 KUNHARDT, HENRY R.,
 KURZMAN, CHARLES C.,
 KUSER, JOHN DRYDEN.
 KUSER, JOHN L.,
 KUTTROFF, ADOLPH.
 KUTTROFF, FREDERICK.
 LACOMBE, HON. E. HENRY.
 LAGAI, DR. GEORGE.
 LAHENS, MRS. PHEBE P.,
 LAIMBEER, JR., JOHN.
 LAMBERT, DR. ALEXANDER.
 LAMBERT, DR. A. V. S.,
 LAMBERT, DR. SAMUEL W.,
 LAMBORN, A. H.,
 LAMONT, MRS. THOMAS WILLIAM.
 LANDAUER, I. N.,
 LANDON, FRANCIS G.,
 LANE, MISS ANNIE E.,
 LANE, EDWARD V. Z.,
 LANE, JAMES WARREN.
 LANE, WOLCOTT G.,
 LANGE, MISS CARMEN.
 LANGELOTH, MRS. JACOB.
 LANIER, MRS. JAMES F. D.,
 LAPHAM, MRS. JOHN J.,
 LAPSLEY, MISS ANNA.
 LATTING, CHARLES P.,
 LAUDER, JR., MRS. GEORGE.
 LAUTERBACH, MRS.,
 LAWRENCE, EMLEN N.,
 LAWRENCE, JOHN BURLING.
 LAWRENCE, JOHN L.,
 LAWRENCE, NEWBOLD T.,
 LAWRENCE, R. WARREN.
 LAWRENCE, TOWNSEND.
 LAWRENCE, MRS. W. W.,
 LAWRENCE, W. V.,
 LAWTON, MRS. JAMES MARSLAND,
 LEA, CHARLES M.,
 LEACH, HENRY GODDARD,
 LEDLIE, GEORGE,
 LEDOUX, DR. ALBERT R.,
 LEDYARD, MRS. LEWIS, C.,
 LEE, MRS. FREDERIC S.,
 LEE, GEORGE C.,
 LEFFERTS, MARSHALL C.,
 LEGG, GEORGE.
 LEGGETT, WARREN F.,
 LEHMAIER, JAMES M.,
 LEHMAN, MEYER H.,
 LELAND, WILFRED C.,
 LEONHARD, J. HENRY,
 LEROY, EDWARD A.,
 LESTER, GEORGE BACON,
 LEVOR, G.,
 LETKEMANN, H. V.,
 LEVER, S. H.,
 LEWIS, MRS. AUGUST,
 LEWIS FREDERIC ELLIOTT.
 LEWIS, DR. WILLIAM J.,
 LEWISOHN, ADOLPH,
 LICHTENSTEIN, OSCAR R.,
 LICHTENSTEIN, PAUL.
 LIEB, JR., J. W.,
 LIEBER, DR. HUGO,
 LIENHART, R. H.,
 LINCOLN, FREDERIC W.,
 LINCOLN, LOWELL.
 LITCHFIELD, E. HUBERT.
 LITCHFIELD, EDWARD H.,
 LIVERMORE, MRS. JOHN R.,
 LOBENSTINE, WILLIAM C.,
 LOEWI, HUGO V.,
 LOEWI, DR. KARL J.,
 LOGAN, FRANK J.,
 LOINES, RUSSELL H.,
 LOOMIS, GUY,

- *LORD, MRS. GEORGE DEFOREST,
 LOW, ETHIELBERT IDE,
 LOW, JR., WILLIAM GILMAN,
 LOWELL, MISS CARLOTTA RUSSELL,
 LOWELL, JAMES B.,
 LOWNDES, D.D., THE REV. ARTHUR,
 LOWTHER, CHRISTOPHER M.,
 LUDINGTON, C. H.,
 LUDLUM, C. A.,
 LUEDER, A.,
 LUKE, DAVID L.,
 LUKE, JOHN G.,
 LUSK, PROF. GRAHAM,
 LUDLOW, MRS. BANYER,
 LUTTGEN, WALTHER,
 LYMAN, FRANK,
 LYDIG, MRS. PHILIP,
 McALPIN, MRS. CHARLES W.,
 McALPIN, JR., MRS. D. HUNTER,
 McALPIN, GEORGE L.,
 McBride, MRS. HERBERT,
 McCAGG, LOUIS B.,
 McCALL, RICHARD,
 McCREA, W. S.,
 McCREERY, MRS. HENRY FORBES,
 MCCOY, DR. JOHN,
 MCCOY, J. C.,
 McCULLOH, J. S.,
 MCGREGOR, D.D., REV. ROBERT G.,
 McGUIRE, JOSEPH H.,
 McKEEVER, J. LAWRENCE,
 McKIM, JOHN A.,
 McKIM, LEROY,
 McLANE, THOMAS S.,
 McLEAN, JAMES,
 McLEAN, MARSHALL,
 McMANUS, EDWARD F.,
 McNAIR, WILLIAM,
 MacFADDEN, C. K.,
 MacFARLANE, WALLACE,
 MACK, ARTHUR C.,
 MACY, GEORGE H.,
 MAGEE, JOHN,
 MAGER, F. ROBERT,
 MAIN, FRANK H.,
 MALE, FRANCIS S.,
 MALI, PIERRE,
 MALI, MRS. PIERRE,
 MANECKE, DR. PHILIP,
 MANN, WILLIAM D'ALTON,
 MAPES, JR., DANIEL,
 MAPES, ERNEST S.,
 MAPES, EUGENE E.,
 MARBURY, MISS ELIZABETH,
 MARCKWALD, ALBERT H.,
 *MARCUS, GEORGE E.,
 MARKOE, HARRY,
 MARKOE, DR. J. W.,
 MARSH, CHARLES CAPRON,
 MARSHALL, A. W. W.,
 MARSHALL, MRS. CHAUNCEY,
 MARKHAM, ROBERT D.,
 MARSTON, EDWIN S.,
 MARTIN, JR., BRADLEY,
 MARTIN, MRS. SHELTON E.,
 MARTIN, DR. WALTON,
 MARTIN, MRS. HOWARD TOWNSEND,
 MARYE, R. V.,
 MASON, CHARLES N.,
 MASTEN, ARTHUR H.,
 MASTERS, FRANCIS R.,
 MASTERS, MISS,
 MATHER, SAMUEL,
 MATHEWS, MRS. WILBUR K.,
 MAXWELL, GEORGE T.,
 MAYER, JESSE,
 MAYER, MRS. JOSEPH B.,
 MAYER, MARCUS,
 MAYNARD, MRS. WALTER E.,
 MEADE, RICHARD W.,
 MECKER, HENRY E.,
 MEEM, JAMES C.,
 MEILL, HENRY,
 MEINHARD, MORTON H.,
 MELOY, ANDREW D.,
 MENN, HOWARD,
 MESSENGER, MISS MARIA GERARD,
 MEYER, EDWIN O.,
 MEYER, JR., EUGENE,
 MEYER, DR. GEORGE W.,
 MEYER, MISS HELOISE,
 MEYROWITZ, EMIL B.,
 MIEHLING, CHARLES,
 MILBURN, JOHN G.,
 MILLER, MRS. CHARLES E.,
 MILLER, MRS. CYRUS C.,
 MILLER, MRS. ELISABETH C. T.,
 MILLER, NATHAN J.,
 MILLER, PEYTON F.,
 MILLER, W. W.,
 MILLET, MRS. F. D.,
 MILLIKEN, MRS. GERRISH H.,
 MILLS, ABRAHAM G.,
 MILLS, ANDREW,
 MILLS, FREDERIC C.,
 MILMINE, C. E.,
 MONTANT, ALPHONSE,
 MITCHELL, JOHN R.,
 MONTGOMERY, CARLETON,
 MOORE, MRS. BARRINGTON,
 MOORE, CASIMIR DE R.,
 MOORE, JR., CHARLES ARTHUR,
 MOORE, MISS K. T.,
 MOORHEAD, HORACE R.,

MORAWETZ, VICTOR.	O'CONNELL, DR. J. H.,
MORGAN, MISS ANNE T.,	O'CONNOR, JAMES B.,
MORGAN, MISS C. L.,	OCHS, ADOLPH S.,
MORGAN, EDWIN D.,	OETTINGER, DR. P. J.,
MORGAN, MRS. J. B.,	OFFERMAN, JOHN.
MORGAN, MRS. J. PIERPONT,	OGDEN, CHARLES W.,
MORGAN, JUNIUS S.,	OGDEN, J. R.,
MORGAN, JR., JUNIUS S.,	OHMEIS, JOHN,
MORGAN, WILLIAM FELLOWES,	OHMEIS, P. M.
MORGAN, JR., WILLIAM FORBES,	OLCOTT, DUDLEY,
MORRIS, DAVE H.,	OLCOTT, 2ND, DUDLEY,
MORRIS, GOUVERNEUR.	OLCOTT, E. E.,
MORRIS, LEWIS SPENCER,	OLIN, MRS. STEPHEN H.,
MORRIS, JOHN JACOB.	OLNEY, ELAM WARD,
MORRISON, N. H.,	OLYPHANT, ROBERT,
MORSE, MRS. GEORGE H.,	OLYPHANT, ROBERT M.,
MORTIMER, RICHARD,	ONATIVIA, J. VICTOR,
MORTON, A. L.,	OPENHYM, GEORGE J.,
MORTON, MRS. PAUL.	OPPENHEIMER, DR. HENRY S.,
MOSLE, A. HENRY,	OPPENHEIMER, DAVID E.,
MOTLEY, JAMES M.,	ORDWAY, SAMUEL H.,
MOTT, HENRY C.,	ORTH, CHARLES D.,
MOTT, MRS. JOHN BOWNE,	OSBORN, MRS. HENRY FAIRFIELD.
MOULTON, ARTHUR J.,	OTTINGER, MARK,
MOWBRAY, H. SIDONS.	OUTERBRIDGE, MRS. ADOLPH J.,
MUELLER, CHARLES F.,	OUTERBRIDGE, DR. PAUL,
MULLER, CARL.	PACKARD, MRS. E. WINSLOW,
MUHLFELD, FRANK J.,	PAGE, WILLIAM H.,
MUNN, MRS. HENRY NORCROSS,	PAINE, MRS. AUGUSTUS G.,
MUNROE, HENRY W.,	PAINTER, DR. H. McM.,
MUNSEY, FRANK A.,	PALMER, EDGAR,
MURGATROYD, JOHN,	PALMER, DR. T. S.,
MURTHA, THOMAS F.,	PARISH, WAINWRIGHT,
MURPHY, MRS. FELIX TONE.	PARKER, A. W.,
MYERS, WILLIAM S.,	PARKER, EDWARD LUDLOW,
*NAEGELI, ROBERT,	PARKER, JUNIUS,
NEILSON, DR. HOWARD S.,	PARKER, WINTHROP,
NEILSON, WALLACE PLATT,	PARPART, WILLIAM E.,
NELSON, JAMES W.,	PARSONS, EDWIN,
NESMITH, JAMES,	PARSONS, MISS GERTRUDE,
NEUMOEGEN, M. L.,	PARSONS, HERBERT,
NEUMOEGEN, MRS. M. L.,	PARSON, MRS. JOHN E.,
NEUSTADT, MRS. S.,	PARSONS, MISS MARY,
NICHOLS, ACOSTA,	PARSONS, WILLIAM BARCLAY,
NICHOLS, JOHN W. T.,	PARTRIDGE, EDWARD L.,
NICKERSON, HOFFMAN,	PATON, DAVID,
NICOLL, BENJAMIN,	PATERSON, HENRY STUART,
NILES, ROBERT L.,	PATTERSON, T. H. HOGE,
NOLKER, ROBERT E.,	PAUL, JOHN J.,
NORMAN, MRS. BRADFORD,	PAYNE, MRS. HENRY W.,
NORRIE, MISS MARY,	PEABODY, STEPHEN,
NORRIE, MRS. E. I. BREESE,	PEARSON, MRS. FREDERICK,
NORTH, GEORGE B.,	PECK, CHARLES E.,
NORTON, G. FREDERICK,	PECK, LEICESTER O.,
NORTON, W. P.,	PECKHAM, MISS MARIE LOUISE,
NOTMAN, GEORGE,	PEGRAM, EDWARD S.,
OBERMAYER, CHARLES J.,	PENDLETON, FRANCIS KEY,

*DECEASED

- PENFOLD, EDMUND,
 PENROSE, DR. CHARLES B.,
 PERCIVAL, L. A. D.,
 *PERKINS, MRS. EDWARD,
 PERKINS, GEORGE E.,
 PERKINS, ROBERT P.,
 PERRY, MRS. WILLIAM A.,
 PETER, EMIL W.,
 PETERS, MRS. CHARLES G.,
 PETERS, SAMUEL T.,
 PETERS, WILLIAM RICHMOND,
 PFEIFFER, CURT G.,
 PFEIFFER, GEORGE,
 PHELPS, MRS. ANSEL,
 PHELPS, DR. GOUVERNEUR M.,
 PHILLIPS, WILLIAM W.,
 PIATTI DR. VIRGIL C.,
 PICKHARDT, CARL,
 PIEL, GOTTFRIED,
 PIEL, MICHAEL,
 PIERREPONT, MISS ANNA JAY,
 PIERREPONT, R. STUYVESANT,
 PIERSON, GEN. J. FRED.,
 *PIKE, R. W.,
 PILLOT, P. STUYVESANT,
 PINCHOT, GIFFORD,
 PLATT, CHARLES H.,
 PLATT, FRANK H.,
 PLATT, HENRY B.,
 PLATT, LIVINGSTON,
 PLATTEN, J. W.,
 PLYMPTON, GILBERT M.,
 POLK, DR. WILLIAM M.,
 POLLOCK, GEORGE E.,
 POMEROY, DANIEL E.,
 POMROY, MRS. H. K.,
 POND, MISS FLORENCE L.,
 POOR, HENRY V.,
 POPE, G. D.,
 PORTER, ALEXANDER J.,
 PORTER, HORACE,
 PORTER, LOUIS H.,
 PORTER, WILLIAM L.,
 POST, ARBAM S.,
 POST, MRS. CHARLES ALFRED,
 POST, GEORGE B.,
 POST, WILLIAM H.,
 POTT, WILLIAM BREVOORT,
 POTTER, MISS BLANCHE,
 POTTER, EDWARD CLARKSON,
 POTTER, FREDERICK,
 POTTER, JAMES BROWN,
 POTTER, ORLANDO B.,
 POTTER, R. BURNSIDE,
 POTTER, MRS. R. BURNSIDE,
 POTTER, FULLER,
 *POTTS, JESSE W.,
 PRATT, ALBERT H.,
 PRATT, GEORGE D.,
 PRATT, H. L.,
 PRATT, JOHN T.,
 PRATT, MRS. JOHN T.,
 PRATT, SAMUEL,
 PRENTICE, JOHN HILL,
 *PRENTISS, GEORGE H.,
 PRENTISS, MISS HENRIETTA,
 PRESS, T. CANNON,
 PRESTON, VERYL,
 PRIDDY, LAWRENCE,
 PRIME, MISS CORNELIA,
 PRINCE, EDWARD S.,
 PROCTOR, MRS. CHARLES E.,
 PROCTER, WILLIAM,
 PROCTOR, THOMAS R.,
 PROCTOR, WM. ROSS,
 PULITZER, MRS. JOSEPH,
 PULSIFER, MRS. N. T.,
 PYLE, D. H. MCALPIN,
 PYNE, MRS. M. TAYLOR,
 QUINCY, CHARLES F.,
 QUINTARD, DR. EDWARD,
 RANDOLPH, EDMUND D.,
 RANDOLPH, WILLIAM W.,
 RANFT, RICHARD,
 RANGER, STANLEY,
 *RASCOVAR, JAMES,
 RASMUS, W.,
 RASMUS, W. T.,
 RATHBORNE RICHARD C.,
 RAUCH, WILLIAM,
 RAYMOND, H. E.,
 READ, MRS. WILLIAM A.,
 REDMOND, MISS E.,
 REDMOND, MRS. HENRY S.,
 REEDS, CHESTER A.,
 REID, JOHN,
 REID, OGDEN MILLS,
 REID, MRS. OGDEN MILLS,
 REID, WALLACE,
 REINHARDT, GEORGE N.,
 REISINGER, CURT H.,
 REMSEN, CHARLES,
 RENSRAW, HOWARD PRICE,
 REYNOLDS, E. B.,
 RHETT, MISS FLORENCE,
 RHINELANDER, PHILIP,
 RICHARD, MISS ELVINE,
 RICHARD, O. L.,
 RICHARD, EDWIN A.,
 RICHARDS, CHARLES A.,
 RICHARDS, EBEN,
 RICHARDS, E. O.,
 RICHARDSON, MRS. C. TIFFANY,
 RICHARDSON, MRS. D. E.,

*DECEASED

RIGGS, GEO. C.,
 RIPLEY, JULIEN A.,
 RIPPE, MRS. E. J.,
 RIVES, GEORGE L.,
 ROBBINS, CHANDLER,
 ROBBINS, MRS. HELEN C.,
 ROBERTS, G. THEODORE,
 ROBERTS, MISS GRACE VAN BRAAM,
 ROBERTS, MISS M. M.,
 ROBERTS, OWEN F.,
 ROBERTSON, ALBERT,
 ROBERTSON, R. H.,
 ROBINSON, MRS. DOUGLAS,
 ROBINSON, EDWARD,
 ROBINSON, G. H.,
 ROBINSON, MISS PAULINE,
 ROBISON, WILLIAM,
 ROCHE, MRS. BURKE,
 ROCKWOOD, WILLIAM H.,
 RODEWALD, F. L.,
 ROE, CHARLES F.,
 ROE, FRANK O.,
 ROE, IRVING L.,
 ROGERS, E. L.,
 ROGERS, MRS. FRANCIS,
 ROGERS, HUBERT E.,
 ROGERS, MRS. WILLIAM BEVERLEY,
 ROKENBAUGH, HENRY S.,
 ROLLE, AUGUSTUS J.,
 ROLLINS, FRANK S.,
 ROMBOUGH, JOHN B.,
 ROOF, CLARENCE M.,
 ROOSEVELT, MRS. JAMES,
 ROOSEVELT, MRS. HILBORNE L.,
 ROOSEVELT, W. EMLEN,
 ROOT, ELIHU,
 ROSE, MRS. A. SUMNER,
 ROTH, FREDERICK G. R.,
 ROTH, J. E.,
 ROTHLAUF, REV. ANTHONY J.,
 ROTHBARTH, ALBERT,
 ROTHWELL, JAMES E.,
 ROWLAND, THOMAS,
 RUHE, LOUIS,
 RUHL, LOUIS,
 RUMSEY, MRS. CHARLES CARY,
 RUNYON, CARMAN R.,
 RUNYON, E. W.,
 RUPPERT, MRS. JACOB,
 RUPERTI, JUSTUS,
 RUSSELL, ARCHIBALD D.,
 RUSSELL, MRS. HORACE,
 RUSSELL, DR. JOHN F.,
 *RYAN, J. D.,
 RYAN, JOHN BARRY,
 RYAN, MRS. THOMAS F.,
 RYLE, ARTHUR,

RYLE, GRAHAM,
 SACHS, ARTHUR,
 SACKETT, MISS GERTRUDE T.,
 SAGE, JOHN H.,
 SAMPSON, ALDEN,
 SAMPSON, CHARLES E.,
 SANDS, MISS ANNE A.,
 *SANDS, BENJAMIN AYMAR,
 SANDS, MRS. BENJAMIN AYMAR,
 SATTERLEE, MRS. H. L.,
 SATTERWHITE, PRESTON P.,
 SANGER, MRS. RALPH,
 SARGENT, HENRY B.,
 SARGENT, GEORGE LLOYD,
 SAUTER, FREDERICK,
 SAUTER, JR., FRED.,
 SCHAAF, HERMANN,
 SCHAEFER, ANDREAS F.,
 SCHAEFER, EDWARD C.,
 SCHAEFER, HENRY,
 SCHALL, W.,
 SCHANCK, GEORGE E.,
 SCHARMANN, A. C.,
 SCHAE, C. F.,
 SCHAUFFLER, DR. A. F.,
 SCHAUFFLER, MRS. A. F.,
 SCHEFER, ANTON H.,
 SCHENCK, HENRY DEB.,
 SCHIEFFELIN, W. H. M.,
 SCHIEFFELIN, WILLIAM JAY,
 SCHIRMER, MRS. MARTHA B.,
 SCHIRMER, RUDOLPH E.,
 SCHMELZEL, MISS JANE E.,
 SCHMELZEL, JAMES H.,
 SCHMIDT, ADOLPH T.,
 SCHMIDT, WILLIAM H.,
 SCHMIDT, FEDOR,
 SCHNABEL, R. A.,
 SCHNAKENBERG, D.,
 SCHOLLE, A. H.,
 SCHRAG, CHARLES A.,
 SCHRAG, LOUIS,
 SCHUMANN, JR., JOHN J.,
 SCHREITER, HENRY,
 SCHUYLER, MISS LOUISA LEE,
 SCHWARTZ, LEWIS F.,
 SCHWARZ, HENRY F.,
 SCHWARZLER, ALBERT J.,
 SCOFIELD, MISS MARION,
 SCOTT, DONALD,
 SCOTT, HON. FRANCIS M.,
 SCOTT, MRS. FRANK H.,
 SCOTT, THOMAS BLYTHE,
 SCOTT, WILLIAM,
 SCOVILLE, HERBERT,
 SCOVILLE, MRS. JOHN H.,
 SCOVILLE, ROBERT,

*DECEASED

- SCRIBNER, ARTHUR H.,
 SCRIBNER, CHARLES.
 SCRIBNER, MRS. CHARLES,
 SCRYMSER, JAMES A.,
 SEAMAN, DR. LOUIS L.,
 SEDGWICK, ROBERT.
 SEE, A. B.,
 SEIDENBERG, OTTO.
 SELIGMAN, GEORGE W.,
 SELIGMAN, JEFFERSON.
 SELIGMAN, JOSEPH L.,
 SELIGMAN, A. J.,
 SENTF, MRS. CHARLES H.,
 SETON, ALFRED.
 SEXTON, LAWRENCE E.,
 SEYBEL, DANIEL E.,
 SHATTUCK, A. R.,
 SHEETS, DR. E. A.,
 SHEEHAN, WILLIAM F.,
 SHEEHAN, MRS. WILLIAM F.,
 SHEFFIELD, JAMES R.,
 SHEFFIELD, MRS. JAMES R.,
 SHELTON, EDWARD W.,
 SHELTON, GEORGE R.,
 SHELTON, WILLIAM C.,
 SHEPARD, ANNIE R.,
 SHEPARD, DR. GEORGE A.,
 SHEPARD, MRS. ELLIOTT F.,
 SHEPARD, FINLEY J.,
 SHILLABER, WILLIAM,
 SHIPMAN, RICHARD D.,
 SHOEMAKER, HENRY W.,
 SHONNARD, HORATIO S.,
 SHONTS, T. P.,
 SHULHOF, OTTO B.,
 SIBLEY, MRS. H. W.,
 SIEDENBURG, JR., REINHARD.
 SIEGEL, JACOB.
 SILLECK, JR., HENRY G.,
 SILLECK, JR., MRS. HENRY G.,
 SILLIMAN, HARPER.
 SILLIMAN, JAMES R.,
 SIMPSON, J. F.,
 SIMON, ALFRED L.,
 SIMON, ROBERT E.,
 SIMPSON, JOHN W.,
 SINCLAIR, MRS. JOHN.
 SINCLAIR, MRS. WILLIAM.
 SINGER, ARTHUR J.,
 SKEEL, DR. FRANK D.,
 *SKIDMORE, WILLIAM L.,
 SKINNER, M. P.,
 SLADE, FRANCIS LOUIS.
 SLAUGHTER, R. B.,
 SLAVEN, RALPH E.,
 SLOCUM, JR., H. J.,
 SLOCUM, COL. J. J.,
 SLOCUM, THOMAS W.,
 SMIDT, MRS. G. L.,
 SMIDT, THOMAS,
 SMILEY, DANIEL,
 SMILLIE, JAMES C.,
 SMILLIE, RALPH,
 SMITH, AUGUSTINE J.,
 SMITH, MRS. CHARLES S.,
 SMITH, ELIAS D.,
 SMITH, PIERRE J.,
 SMITH, ROBERT K.,
 SMITH, GEO. STUART,
 SMITHERS, CHARLES,
 SMITHERS, F. S.,
 SNOW, E. G.,
 SNYDER, VALENTINE P.,
 SOLDWEDEL, FREDERICK A.,
 SONDHEIM, PHEINAS,
 SORCHAN, MRS. VICTOR,
 SOULE, LOUIS H.,
 SPALDING, H. BOARDMAN,
 SPALDING, KEITH,
 SPARROW, MRS. EDWARD W.,
 SPEAR, JR., JAMES,
 SPEDDEN, FREDERIC O.,
 SPENCER, ALEXANDER H.,
 SPENCER, MRS. EDWARDS.
 SPERANDIO, ALOIS,
 SPERRY, WILLIAM M.,
 SPEYER, MRS. JAMES,
 SPITZNER, GEORGE W.,
 SPOFFORD, MRS. J. L.,
 SPRAGUE, MRS. FRANK J.,
 SPRIGG, JUDGE CARROLL,
 SPRING, MISS ANNA RYKER,
 SPURR, E. W.,
 SQUIBB, DR. EDWARD H.,
 SQUIRE, EBEN H. P.,
 STAFFORD, WILLIAM FREDERICK,
 STAFFORD, MRS. WILLIAM FREDERICK,
 STAHL, ADOLFO,
 STALLFORTH, F.,
 STANTON, FRANK McMILLAN,
 STANTON, JOHN R.,
 STAPLES, MRS. JOHN J.,
 STARR, LOUIS MORRIS.
 STEARNS, LOUIS,
 STEBBINS, JAMES H.,
 STEELE, MRS. CHARLES.
 STEERS, J. RICH.,
 STEIN, MR. ALEXIS W.,
 STEINBECK, EDWARD,
 STEINMETZ, JOHN A.,
 STEPHENS, OLIN J.,
 STEPHENS, RODERICK,
 *STEVENS, ALEXANDER H.,
 STEVENS, FREDERIC W.,

*DECEASED

STEVENS, OSCAR E.,
 STEVENS, RICHARD,
 STEVENS, MRS. RICHARD,
 STEWART, CECIL P.,
 STEWART, MRS. PERCY HAMILTON,
 STEWART, WILLIAM R.,
 STICKELS, EDWARD H.,
 STILLMAN, CHAUNCEY,
 STILLMAN, MRS. C. C.,
 STILLMAN, JOSEPH F.,
 STILLMAN, JAMES A.,
 STIMPSON, EDWIN B.,
 STIMSON, MRS. FREDERIC,
 STIMSON, DR. DANIEL M.,
 STOKES, JAMES,
 STONE, MISS ANNIE,
 STONE, CHARLES A.,
 STONE, MISS ELLEN J.,
 STOUT, JOSEPH S.,
 STOUT, ANDREW V.,
 STOW, GEORGE G.,
 STRAIGHT, WILLARD,
 STRANGE, A. B.,
 STRAUS, H. GRANT,
 STRAUS, JR., MRS. NATHAN,
 STRAUS, PERCY S.,
 STRAUSS, ALBERT,
 STRAUSS, CHARLES,
 STRAUSS, FREDERICK,
 STREAT, JAMES,
 STREET, W. A.,
 STRONG, JR., BENJAMIN,
 STRONG, RICHARD A.,
 STRONG, THEREON G.,
 STROOCK, JOSEPH,
 STROOCK, LOUIS S.,
 STUART, ROBERT,
 STURGES, HENRY C.,
 STURGES, MRS. E. C.,
 SUCKLEY, MRS. R. B.,
 SULLIVAN, MRS. JAMES,
 SUYDAM, LAMBERT,
 SUTRO, IONEL,
 SWAN, JAMES A.,
 SWANSON, DR. F. J.,
 SWENSON, S. A.,
 SWORDS, WILLIAM VOORHIS,
 TABER, MISS MARY,
 TABOR, F. H.,
 TAFT, HENRY W.,
 TAFT, WILLIAM HOWARD,
 TAG, ALBERT,
 *TAILER, EDWARD N.,
 TALCOTE, MRS. JAMES,
 TALMAGE, MRS. THOMAS HUNT,
 TALMAGE, MRS. E. T. H.,
 TANENBAUM, MOSES,

TATHAM, CHARLES,
 TAUSSIG, NOAH W.,
 TAYLOR, MR. HENRY OSBORN,
 TAYLOR, HENRY R.,
 TAYLOR, JAMES B.,
 TAYLOR, LLOYD,
 TAYLOR, MOSES,
 TAYLOR, ROBERT C.,
 TAYLOR, WILLIAM A.,
 TAYLOR, WILLIAM R. K.,
 TENNEY, C. H.,
 TENNEY, DANIEL G.,
 TERRY, MRS. JOHN T.,
 TERRY, JR., RODERICK,
 TERRY, WYLLYS,
 THACHER, ARCHIBALD G.,
 THACHER, MRS. GEORGE W.,
 THACHER, THOMAS,
 THAW, J. C.,
 THAYER, HARRY BATES,
 THOMAS, MRS. HOWARD L.,
 THOMAS, JR., SETH E.,
 THOMPSON, FERRINGTON M.,
 THOMPSON, LA MARCUS A.,
 THOMPSON, MRS. J. TODHUNTER,
 THOMPSON, WILLIAM BOYCE,
 THOMSON, DR. WILLIAM HANNA,
 THOMSON, GIRAUD F.,
 THORLEY, CHARLES,
 THORNE, CHAS. STOCKTON,
 THORNE, MRS. EDWIN,
 THORNE, JONATHAN,
 THORNE, MRS. JONATHAN,
 THORNE, MRS. W. V. S.,
 THURBER, H. F.,
 THURSBY, SIDNEY,
 TIEDEMANN, THEODORE,
 TIFFANY, LOUIS C.,
 TIERS, MRS. ALEXANDER H.,
 TILT, ALBERT,
 TILTON, JOSEPH W.,
 *TIMKEN, J. HENRY,
 TIMMERMAN, HENRY G.,
 TIMOLAT, JAMES G.,
 TIMPSON, JAMES,
 *TJADER, RICHARD,
 TOD, J. KENNEDY,
 TODD, M. PARSONS,
 TODD, WALTER B.,
 TODD, JOHN R.,
 TOLER, MRS. VIRGINIA W.,
 TOMBY, BORGFELDT,
 TONNELI, MRS. JOHN N.,
 TOWNES, W. G.,
 TOWNSEND, MISS AMY C.,
 TOWNSEND, MRS. E. M.,
 TOWNSEND, EDWIN S.,

*DECEASED

- TOWNSEND, H. N.,
 TOWNSEND, HOWARD,
 TOWNSEND, ISAAC,
 TOWNSEND, JAMES B.,
 TRIMBLE, MRS. RICHARD,
 TROESCHER, A. F.,
 TROWBRIDGE, FREDERICK K.,
 TUCKERMAN, ALFRED,
 TUCKERMAN, PAUL,
 TUCKER, MRS. AGNES J.,
 TUCKER, CARL,
 TURNBULL, ARTHUR,
 TURNBULL, MRS. RAMSAY,
 TURNBULL, WILLIAM,
 TURNURE, GEORGE E.,
 TUSKA, BENJAMIN,
 TWEED, MRS. CHARLES H.,
 TWINING, E. S.,
 UHL, OSWALD W.,
 UNDERWOOD, WILLIAM LYMAN,
 UPMANN, CARL,
 VALENTINE, MRS. PATRICK A.,
 VALENTINE, DR. WILLIAM A.,
 VAN BEUREN, JR., FREDERICK T.,
 VAN CORTLANDT, AUGUSTUS,
 VAN COTT, HARVEY A.,
 VANDERGRIFT, S. H.,
 VAN DER HOOFT, MRS. C. W.,
 VANDERLIP, FRANK A.,
 VANDERPOEL, AMBROSE E.,
 VANDERPOEL, MRS. JOHN A.,
 VAN DER SMISSEN, DR. G. J.,
 VAN DYKE, R. B.,
 VAN GERBIG, BAREND,
 VAN INGEN, MRS. EDWARD,
 VAN INGEN, MRS. E. H.,
 VAN NORDEN, MRS. GRACE T.,
 VAN NORDEN, OTTOMAR H.,
 VAN NOSTRAND, B. T.,
 VAN SINDEREN, HOWARD,
 VAN SLYCK, GEORGE W.,
 VAN WINKLE, EDGAR B.,
 VARIAN, WILBUR L.,
 VESPER, KARL H.,
 VERNAY, ARTHUR S.,
 VIETOR, THOMAS F.,
 *VINCENT FRANK,
 VILLA, ALFONSO P.,
 VERNON, MRS. CATHERINE D.,
 VIRGIN, DR. FREDERIC O.,
 VOGEL, HERMAN,
 VON BERNUTH, JR., FRITZ,
 VON GONTARD, MRS. ALEXANDER,
 VON LINGERKE, JUSTUS,
 VON ZEDLITZ MRS. ANNA M.,
 VUILLEUMIER, DR. JULES A.,
 WAGNER, CHARLES H.,
 WAGSTAFF, MRS. ALFRED,
 WAGSTAFF, C. DUBOIS,
 WAINWRIGHT, MRS. J. HOWARD,
 WALBRIDGE, HENRY D.,
 WALCOTT, FREDERIC C.,
 WALDO, R.,
 WALKER, BRYANT,
 WALKER, E. R.,
 WALKER, GUSTAVUS A.,
 WALKER, DR. JOHN B.,
 WALKER, JR., JOSEPH,
 WALES, EDWARD H.,
 WALLER, STEWART,
 WALLERSTEIN, DR. MAX,
 WALSH, SAMUEL A.,
 WALTER, EDGAR,
 WALTER, MARTIN,
 WALTER, WILLIAM I.,
 WALTY, A. R.,
 WARBURG, PAUL M.,
 WARD, ARTEMAS,
 WARDNER, HENRY STEELE,
 WARDWELL, ALLEN,
 WARREN, MRS. J. HOBART,
 WARREN, LLOYD,
 WASHBURN, THOMAS G.,
 WASHBURN, WM. IVES,
 WATERBURY, JOHN I.,
 WATERBURY, MISS,
 WATRISS, MRS. HELEN B.,
 WATSON, CHARLES F.,
 WATSON, MRS. J. HENRY,
 WATSON, THOMAS J.,
 WATT, THOMAS L.,
 WEATHERBEE, MRS. EDWIN H.,
 WEBB, MRS. ALEXANDER S.,
 WEBB, F. EGERTON,
 WEBB, J. GRISWOLD,
 WEBB, MRS. WILLIAM SEWARD,
 WEEKS, JOHN E.,
 WEEKS, JAMES,
 WEIGLE, CHARLES H.,
 WEILER, MRS. JULIA O.,
 WEINIG, BERNARD,
 WEIR, MRS. C. GOUVERNEUR,
 WEISS, JULIUS,
 WEITLING, WILLIAM W.,
 WELCH, HENRY K. W.,
 WELLS, OLIVER J.,
 WELSH, MRS. S. CHARLES,
 WESSEL, ARTHUR L.,
 WESSEL, J. HENRY,
 WEST, DR. WILLIAM,
 WESTOVER, M. F.,
 WETMORE, EDMUND,
 WHEELER, WALTER S.,
 WHELOCK, MRS. G. G.,

WHEELOCK, WM. H.,	WINGATE, GEORGE W.,
WHITE, A. M.,	WINTER, EMIL,
WHITE, HAROLD T.,	WINTER, JULIUS,
*WHITE, HORACE,	WINTHROP, JR., EGERTON L.,
WHITE, LEONARD D.,	WISNER, CHARLES,
WHITE, MRS. STANFORD,	*WITHERBEE, FRANK S.,
WHITEHOUSE, J. HENRY,	WITHERBEE, MRS. FRANK S.,
WHITEHOUSE, NORMAN,	WITTMANN, JOSEPH,
WHITEHOUSE, WILLIAM F.,	WOLF, ARTHUR D.,
WHITING, DR. CHARLES A.,	WOLFF, EMIL,
WHITING, MISS GERTRUDE,	WOOD, ARNOLD,
WHITMAN, CLARENCE,	WOOD, GILBERT CONGDON,
WHITMAN, JR., WILLIAM,	WOOD, J. WALTER,
WHITNEY, RICHARD,	WOOD, WILLIAM CONGDON,
*WHITRIDGE, F. W.,	WOODHOUSE COMPANY, J. S.,
WIBORG, F. B.,	WOODRUFF, ALBERT C.,
WICKERSHAM, GEORGE W.,	WOODWARD, KENNETH N.,
WIGGLESWORTH, HENRY,	WOODWARD, MRS. WILLIAM,
WILKINS, F. H.,	WOOLLEY, C. M.,
WILLCOX, WILLIAM G.,	WORCESTER, WILFRED J.,
WILLIAMS, ALEX S.,	WORK, BERTRAM G.,
WILLIAMS, ARTHUR,	*WORK, J. HENRY,
WILLIAMS, C. S.,	WORTLEY, R. M. STUART,
WILLIAMS, CLARENCE E.,	WRIGHT, HAL,
WILLIAMS, GEORGE L.,	WRIGHT, J. DUNBAR,
WILLIAMS, MRS. PERCY H.,	WRIGHTSMAN, C. J.,
WILLIAMS, JR., RICHARD H.,	WYCKOFF, DR. PETER BROWN,
WILLIAMS, WALDRON,	WYCKOFF, MRS. PETER BROWN,
WILLIAMS, WILLIAM,	YOUNG, A. MURRAY,
WILLIAMS, WILLIAM H.,	*ZINSSER, AUGUST,
WILLIAMSON, MRS. BUTLER,	*ZINSSER, MRS. AUGUST,
WILLIS, W. P.,	ZINSSER, AUGUST,
WILLISTON, JAMES R.,	ZENTGRAF, REV. GEORGE J.,
WILSON, JAMES GODFREY,	ZOLLER, CHARLES,
WILSON, M. ORME,	ZINN, GEORGE,

Corresponding Members

GILFEDDER, T. P.,	LESOUF, W. H. DUDLEY,
GILLESPIE, T. H.,	MILLWARD, RUSSELL HASTINGS,
JOHNSTON, SIR HARRY H.,	STURTEVANT, MAJOR C. G.,
	TYRWITT-DRAKE, G.,

*DECEASED

Summary of Membership

Benefactors	7
Founders in Perpetuity	18
Founders	15
Associate Founders	9
Patrons	32
Life Members	313
Fellows	35
Annual Members	1,872
Honorary and Corresponding Members	11
	<hr/>
	2,315

Qualification for Regular Membership

Annual Members	\$ 10	Associate Founders	\$ 2,500
Life Members	200	Founders	5,000
Patrons	1,000	Founders in Perpetuity	10,000
Benefactors	\$25,000		

Form of Bequest

I do hereby give and bequeath to the "NEW YORK ZOOLOGICAL SOCIETY," of the City of New York,



Resolution Regarding Migratory Bird Treaty

At the Annual Meeting of the Zoological Society, held on January 8, 1918, the following resolution was adopted:

Whereas, The Congress of the United States invited the Government of the Dominion of Canada to enter into an international treaty for the protection of North American migratory birds from the destruction which rapidly has been exterminating many valuable species, and

Whereas, The Government of Canada, despite the distractions of her participation in a great war, promptly accepted the proposal of our Congress and diligently and forcefully carried it into complete effect; now therefore be it

RESOLVED, That the New York Zoological Society hereby respectfully directs the attention of the President of the United States and the House of Representatives to the disquieting fact that the American enabling act to provide regulations for the enforcement by the United States of the aforesaid treaty has not yet passed the lower house of Congress, and that immediate action is necessary in order to keep faith with Canada, to avoid affronting a friendly nation, and at the same time to place our migratory birds on the basis of protection that long has been desired for them by the people of the United States.

REPORT OF
THE EXECUTIVE COMMITTEE
TO THE BOARD OF MANAGERS.

THE Executive Committee respectfully submit the following report to the Board of Managers for the year 1917:

The Committee regret to announce the death of one of the original members of the Board, Col. William Conant Church, who passed away on May 23, 1917. Col. Church was one of the founders of the Society, and was devoted to its interests.

The Committee also report with regret the death of Mr. Grant Barney Schley, on November 22, 1917. Mr. Schley took great interest in the work of the Society, and was liberal in his donations to it.

Resolutions passed on their deaths appear at the end of this report.

Mr. William Woodward was elected to the Board of Managers at the Annual Meeting of the Society on January 9, 1917, to fill the vacancy in the Class of 1920, caused by the death of the late H. Casimir deRham.

Mr. Frederic C. Walcott was elected to the Board of Managers at the Annual Meeting of the Board on January 16, 1917, to fill the vacancy in the Class of 1919, caused by the resignation of Mr. F. Augustus Schermerhorn.

MEMBERS.

Notwithstanding the unsettled conditions during the past year, 217 new members have been secured: 197 Annual Members, 18 Life Members, 1 Patron and 1 Fellow. Resignations and



From a photograph by Elwin R. Sanborn

ADULT FEMALE CHIMPANZEE RECENTLY ACQUIRED BY THE SOCIETY

This is the largest specimen ever exhibited in the Park. The hair was shaved from her arms by her former owner.

deaths, however, reduce the net result to a gain of 98 members. The membership as of January 1, 1918, is as follows:

Benefactors	7
Founders in Perpetuity	18
Founders	15
Associate Founders	9
Patrons	32
Life Members	313
Annual Members	1,872
Fellows	35
Honorary Members	7
Corresponding Members	7
	<hr/>
	2,315

ATTENDANCE.

The increase in the attendance of both institutions and especially that of the Zoological Park has been satisfactory. The Aquarium continues to suffer from the conditions in Battery Park created by the war, and more particularly by reason of the construction of the subway which has greatly impeded access to that institution. The attendance at the Park and Aquarium for 1917, as compared with 1916, has been as follows:

	<i>Park</i>	<i>Aquarium</i>
1917.....	1,898,414	1,595,118
1916.....	1,656,820	1,499,667

COLLECTIONS AT THE PARK.

A census of the animals in the Zoological Park, compiled January 1, 1918, is as follows:

	January 1, 1917		January 1, 1918	
	<i>Species</i>	<i>Specimens</i>	<i>Species</i>	<i>Specimens</i>
Mammals	207	617	205	611
Birds	816	2,788	813	2,799
Reptiles and Am- phibians	98	782	112	644
	<hr/>	<hr/>	<hr/>	<hr/>
	1,121	4,187	1,130	4,054

On the whole the health of the collections at the Park has been excellent. There have been, however, a number of deaths due to old age, but losses from this cause must be expected.

COLLECTIONS AT THE AQUARIUM.

A census of the exhibits at the Aquarium taken January 1, 1918, shows the following results:

	January 1, 1917		January 1, 1918	
	<i>Species</i>	<i>Specimens</i>	<i>Species</i>	<i>Specimens</i>
Fishes	149	4,196	137	4,611
Reptiles	19	123	21	112
Amphibians	8	365	8	69
Invertebrates	21	1,306	18	1,255
Mammals	2	2	2	2
	<hr/>		<hr/>	
	199	5,992	186	6,049

Compared with January 1, 1917, this census shows an increase of fifty-seven specimens, and a decrease of thirteen species. The two mammals in the Aquarium are a sea-lion and a manatee. The sea-lion has lived in the Aquarium ten years and the manatee a year and a half.

It is a great satisfaction to be able to report a still further improvement in the welfare of the living collections of the Aquarium. The installation of a new salt-water supply in 1908 improved the conditions for keeping marine forms of life to a remarkable degree. The enlargement of some of the tanks in 1916 has also contributed to this result.

Fresh-water fishes were collected as usual by the Aquarium employees from local waters, and exchanges were made with the State fishery boards of New York and New Jersey. Local marine species were also collected by the Aquarium force.

Three collections of tropical fishes were made in Florida during the summer, two of them being in cooperation with the Detroit and Philadelphia Aquariums. This arrangement proved to be economical and advantageous, although the number of specimens brought to the New York Aquarium was somewhat less than usual. All of the work of collecting and transporting was done by the New York Aquarium force, the other institutions contributing to the general cost of the trip.

During the year, 2,587 specimens were purchased by the Zoological Society, and 166 were presented. In addition to these, two millions of fish eggs were received from the U. S. Bureau of Fisheries, which were hatched in the Aquarium and later distributed in public waters.

ALTERATIONS TO AQUARIUM.

It is proposed to apply to the City for \$100,000 for the alteration of the present Aquarium Building so as to remove the boilers from the present quarters which are monthly flooded by the full-moon tides dangerously close to the actual fires. The existing conditions compel our men to work in most unsanitary surroundings and at a great disadvantage, in addition to loss of heat and power in the pumps and engines. If these boilers were removed to the cellar under the front of the building, the space now occupied by the machinery could be devoted to additional exhibits. A third story on the front of the building is also needed to provide additional space for administration and for research work in connection with the scientific utilization of the mass of material now available.

COAL SHORTAGE AT AQUARIUM.

The Aquarium during the winter of 1917-1918 has been several times seriously imperilled by the coal shortage. We are at present without bunker facilities for the storage of a reserve supply of coal, and we are dependent on the deliveries at least every two days. While we hope to be able to maintain the Aquarium during the winter, this condition has become intolerable. As soon as the City's financial condition permits, every effort will be made to secure the appropriation needed for the alteration of this institution.

Park.—The sum of \$199,560 was provided by the City for the maintenance of the Zoological Park for the year 1917, and by dint of the strictest economy, the year closed without a deficit in this fund. The food supply of the animals was supplemented by farming on Park land by volunteer labor from our employees and the Executive Committee wish to take this opportunity to express its appreciation of the willingness and patriotism of its Park staff.

The sum of \$207,586 has been provided for the maintenance of the Park by the City for the year 1918. This includes an amount sufficient to enable the Society to meet the increased salaries of our low-paid employees, which last year were provided by a special subscription of the Board of Managers.

Aquarium.—The sum of \$47,000 was provided by the City for the maintenance of the Aquarium during 1917. Your Committee had great difficulty in maintaining the Aquarium with this amount, and it was only with much self-devotion on the part of the Aquarium staff that this result was accomplished and the year closed without a deficit. The sum of \$48,632.50 has been provided by the City for the maintenance of the Aquarium for the year 1918 and for the increased salaries of the low-paid employees.

The total cost to the City for the upkeep of these two institutions for the year 1917 amounted to a trifle less than seven cents for each visitor.

FINANCES.

The Society continues to suffer from an exceedingly small Endowment Fund and it has been a great disappointment to your Committee that this fund has not received the benefit of large bequests in the same proportions as have its sister institutions in this city. With an Endowment Fund of only \$369,331.96, the income is pitifully small for the amount of work which must be performed. The Society could be of vast usefulness in various fields of zoological and conservation activities if only there were a sufficient sum of money available for that purpose. The Executive Committee desires to point out to the members of the Board of Managers the disabilities under which the Society labors from a lack of an unrestricted income from at least \$1,000,000, which could be utilized for the maintenance and expansion of the Society.

The balances to the credit of the several funds in the Farmers' Loan & Trust Company as of December 31, 1917, are as follows:

Income Account	\$10,954.74
Animal Fund	16,463.03
Endowment Fund (uninvested)	2,740.71

Stokes Bird Fund	258.54
Cadwalader Animal Fund	1,500.00
Art Gallery Fund	8,003.21
Tropical Research Fund	1,465.63
National Collection of Heads & Horns	75.77
Wild Life Fund	869.01
Publication Fund	1,075.40
Heads & Horns Building Fund (uninvested)	13,983.62
Pheasant Aviary Fund	141.33
Library Fund	437.80

Total	<u>\$57,968.79</u>
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Carnegie Pension Fund Income Account:

Farmers' Loan & Trust Company	\$ 3,137.27
Corn Exchange Bank (Bronx)	274.69

	<u>\$ 3,411.96</u>
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The Executive Committee desire to express its appreciation of the satisfactory manner in which the Assistant Treasurer, The Farmers' Loan & Trust Company, and the Bursar, Mr. R. L. Cerero, have performed their duties.

INCOME ACCOUNT.

As usual the general income of the Society, which includes the income from the Endowment Fund, was insufficient to meet the current expenses of 1917, although these were reduced to the lowest possible point consistent with the actual work of the Society; and we were obliged again to use a portion of the cash balance on hand at the beginning of the year. This account continues to suffer from its obligation to contribute annually to the Carnegie Pension Fund. This year the amount due was \$3,665. The Committee are only too glad to provide in this way for the safety of their employees, but the drain on their resources is nevertheless very great. This account is the one which occasions the most anxiety to your Committee, and nothing short of a considerable increase in membership, or in the Endowment Fund, will be of substantial assistance to this fund.

As a result of these burdens on the Society's resources the balance on hand at the close of the year was only \$10,954.74, a sum even smaller than the balance of the previous year.



From a photograph by Elsie R. Sanborn

FLAG RAISING DAY, MARCH 31, 1917, ZOOLOGICAL PARK

Hon. Douglas Mathewson, President, Bronx Borough, delivering an address in the Italian Garden during the exercises that preceded the raising of the American flag.

ANIMAL FUND.

During the year the Board of Managers subscribed \$9,000 towards the purchase of animals, and \$1,780 were received from the other members of the Society in response to an appeal sent to them. It was necessary, however, to transfer \$10,000 from the Privilege Department and \$7,118.90 from the gate receipts to meet the requirements of this fund during the year.

The subscribers to this fund during 1917 were:

Percy R. Pyne	1,250.00
Frederick G. Bourne	1,000.00
Henry M. Tilford	1,000.00
George F. Baker	1,000.00
Mortimer L. Schiff	1,000.00
Robert S. Brewster	1,000.00
A. Barton Hepburn	500.00
Edward S. Harkness	500.00
Andrew Carnegie	500.00
Lispenard Stewart	500.00
Charles F. Dieterich	300.00
George C. Clark	250.00
J. P. Morgan	250.00
William B. Osgood Field	200.00
Louis J. Boury	200.00
Miss Katherine DuBois	100.00
Wm. A. DuBois	100.00
Newbold Edgar	100.00
J. Sanford Barnes	100.00
Samuel P. Avery	100.00
Mrs. George W. Thacher	100.00
James Douglas	100.00
Robert L. Gerry	100.00
Miscellaneous	530.00

Total	\$10,780.00
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Thanks to this assistance, the Society was able to maintain its collections at full strength. There was a balance on hand of \$16,463.03 on December 31, 1917.

ENDOWMENT FUND.

During the year Mr. Frank W. Kitching subscribed \$10,-329.16 to this fund. The balance of the legacy due under the

will of the late Mrs. Morris K. Jesup was also received viz.—\$2,500, thus completing the full amount of this bequest of \$25,000. In addition one Patron fee of \$1,000 and \$3,740 in Life Membership fees were added to this fund, making a total of \$17,569.16 received during the year.

The cash invested during the year was as follows:

\$9,000 Lehigh Valley Terminal 5% Bonds.....	\$9,090.00
\$3,000 Central Railroad of New Jersey 5% Bonds.....	3,031.25
\$7,000 United New Jersey R.R. & Canal 4% Bonds.....	6,230.00
\$1,000 New York, Lackawanna & Western Term. 4% Bonds	990.00

The Endowment Fund now amounts to \$369,331.96. This fund is invested in securities yielding a net income at the average rate of 4.25 per cent per annum.

On December 31, 1917, there was an uninvested balance of \$2,740.71 on hand.

STOKES BIRD FUND.

The income from this fund, which consists of \$5,000 bequeathed to the Society by the late Miss Caroline Phelps Stokes, is devoted to the protection of bird life throughout the country.

On January 1, 1917, there was a balance on hand of \$58.54, and during the year income was received in the amount of \$200. There were no expenditures during the year. The cash balance on hand December 31, 1917, was \$258.54.

CADWALADER ANIMAL FUND.

This fund consists of the income from the fund of \$20,000 bequeathed to the Society by the late John L. Cadwalader, which is available only for the purchase of animals for the Park. On January 1, 1917, there was a cash balance of \$500. The income during the year amounted to \$1,000, and there were no expenditures. This fund closes the year with a cash balance of \$1,500.

ART GALLERY FUND.

A new and important canvas by Carl Rungius has been completed, and is on exhibition in the Administration Building

at the Zoological Park. It is entitled "In the Days of the Bison Millions," and depicts a herd of perhaps 250,000 bison quietly feeding on a rolling prairie covered with buffalo grass and sage brush in northwestern Wyoming with the Wind River Mountains in the background. The scene depicted would date back something over half a century.

Another new painting depicts the rapidly disappearing California condor, the largest North American bird of prey. The picture is by R. Bruce Horsfall, and shows a gorge in the Sierras painted from studies made on the spot. The bird is life-size, and the canvas measures sixty by seventy-five inches.

A number of paintings showing the color changes in tropical fishes at the Aquarium have been prepared for publication by the Zoological Society. Mr. H. B. Tschudy has illustrated five species, each exhibiting three to eight color phases. Mr. H. Murayama has illustrated eight species, with three to four color phases of each. Mr. Richard Deckert has illustrated two species, with three color phases of each. Mr. L. L. Mowbray has illustrated one species showing four phases of color.

During the year subscriptions to the Art Gallery Fund were received in the amount of \$3,750, which with the cash balance on hand January 1, 1917, of \$6,764.92, made a total of \$10,514.92 available for expenditure. The expenditures during the year amounted to \$2,511.71, leaving a cash balance on hand December 31, 1917, of \$8,003.21.

Subscriptions of \$250 for 1917 to the Art Gallery Fund have been received from each of the following managers and friends:

Edward S. Harkness, Cleveland H. Dodge, Mortimer L. Schiff, Ogden Mills, Frederick G. Bourne, George F. Baker, Lisenard Stewart, Percy R. Pyne, Grant B. Schley, Charles F. Dieterich, Andrew Carnegie, Watson B. Dickerman, George J. Gould, Frank K. Sturgis and Joseph McAleenan.

TROPICAL RESEARCH FUND.

During the year \$5,250 were subscribed to this fund by the following managers:

Cleveland H. Dodge	\$1,000.00
Andrew Carnegie	1,000.00

C. Ledyard Blair	1,000.00
George J. Gould	1,000.00
Mortimer L. Schiff	1,000.00
American Museum of Natural His- tory	250.00
	<hr/>
	\$5,250.00

This amount, together with the balance on hand January 1, 1917, made \$5,267.57 available for expenditure. The expenses amounted to \$3,801.94, leaving a balance of \$1,465.63 on hand on December 31, 1917.

In view of the war conditions, it was decided not to send the expedition this year to South America. Mr. Beebe with one assistant, however, made a trip to British Guiana and brought back the property of the Society which had been left there.

NATIONAL COLLECTION OF HEADS AND HORNS.

The only source of income for this fund are transfers made from the general Income Account of the Society, and private subscriptions. There were, however, no transfers made during the year, and only one subscription of \$15 was received, from Mr. John J. Paul. This subscription, together with the balance on hand January 1, 1917, of \$78.89, made a total of but \$93.89 available for expenditure. The expenditures amounted to \$18.12, leaving a balance of \$75.77 on hand December 31, 1917.

The only acquisitions to the collection during the year were an Okapi head presented by the American Museum of Natural History, and a Black-faced Caribou presented by Dr. and Mrs. F. S. Gould, of Santa Barbara, California.

WILD LIFE PROTECTION FUND.

The expenditures against this fund during the year amounted to \$86.59. The balance on hand January 1, 1917, was \$729.30, and receipts in the amount of \$226.30 have been received from the sale of "Our Vanishing Wild Life." This fund closes the year with a cash balance of \$869.01, due to the fact that the Society's work in this field now is financed by the Permanent Wild Life Protection Fund.

PUBLICATION FUND.

The amount on hand January 1, 1917, was \$6,000, and the only receipts were from the sale of "Tropical Wild Life," by Beebe, Hartley and Howes, in the amount of \$297. The balance on hand on December 31, 1917, was \$1,075.40.

HEADS AND HORNS MUSEUM.

Mr. Henry D. Whitfield was appointed architect for the proposed Heads and Horns Museum, and after prolonged studies, preliminary plans for the building were adopted by the Committee. Upon the proclamation of war, however, it was decided to postpone the construction of this building. A call was then issued for the subscriptions, and most of them have been received. They were immediately invested in Liberty Bonds. The principal and accumulated income from this fund will be used for the construction of the Museum as soon as building conditions become normal.

Cash balance on hand December 31, 1917, was \$13,983.62.

NEW PHEASANT AVIARY.

Col. Anthony R. Kuser presented to the Society, the steel work of a large pheasant aviary, in five sections. Two sections have been erected together, making a cage thirty by forty feet, for use as a flying cage for pheasants. This installation will be located immediately north of the existing Pheasant Aviary, and will contain a large collection of male golden and silver pheasants, so that the contrast between the plumage of these two species may be displayed to best advantage. The three remaining sections, thirty by sixty feet, will be erected on the space north of the Wild Fowl Pond, and will be devoted to an assemblage of breeding egrets and spoonbills. Two subscriptions of \$200 have been received from Col. Anthony R. Kuser and Mr. Percy R. Pyne for this purpose, and \$600 additional will be needed.

The balance in the Pheasant Aviary Fund on hand December 31, 1917, was \$141.33.

LIBRARY.

The Library Fund is supported by transfers from the general Income Account of the Society. During the year, one such transfer was made, of \$500, which with the balance of \$295.29 on hand, January 1, 1917, made a total of \$795.29 available for expenditure. Books, periodicals, pamphlets, etc., have been purchased to the extent of \$357.49, and the account shows a balance of \$437.80 on December 31, 1917.

CARNEGIE PENSION FUND.

The fund of \$100,000 received from Mr. Andrew Carnegie, produced \$4,335 during the year, and as the total annual contribution of the Society to the drawing account was \$8,000, the Society was obliged to make up out of its general Income Account, the deficit of \$3,665. An additional sum of \$150,000 is required to provide adequate relief for widows, for the permanence of the present pension plan, and to relieve the Society of this drain on its slender resources. During the year, the employees paid to the Pension Fund Income Account, \$3,046.30. On December 31, 1917, there was a balance on hand in the drawing account of \$37,625.71, of which \$34,213.75 have been invested in quickly convertible securities, and \$3,411.96 remains on deposit.

PHEASANT MONOGRAPH.

The delay in the completion of the Pheasant Monograph is due to war conditions, but the first volume is to be printed and made available during the current year.

WAR SERVICE.

During the year the following employees at the Park and Aquarium have joined the colors:

Dr. W. Reid Blair, Veterinarian, Major, Veterinary Corps,
U.S.A.

Cyril Newman, Stock Accountant, 1st Class Yeoman, U.S.N.

Howard Engeholm, Keeper, Private, U.S.A.

Edward Reuter, Keeper, Private, U.S.A.

Robert Sutcliffe, Clerk, Cadet, Non-flying section Aviation Corps, U.S.A.

John Shea, Office Assistant, Private, Quartermaster Corps, U.S.A.

Frank Doyle, Private, U.S.A.

The Society has agreed to make up out of its own funds, the difference in pay received from the Government and that formerly paid by the Society.

The Zoological Park Guards, composed of employees at the Park, were organized at the Zoological Park, uniformed and were armed with rifles at the expense of the Society. These guards are part of the police force of this city, and can be relied on to assist in the maintainance of order.

During the year a Red Cross Working Base was established in the Lion House, and turned out a large amount of woolen clothing for the army, with special reference to hospital uses.

Two flag poles have been erected in the Zoological Park, one near the Rocking Stone Restaurant, and the other on Baird Court.

EAST SIDE EXTENSION.

During the year a law, known as the Mills Bill, authorizing the Board of Estimate and Apportionment to turn over to the Zoological Society lands lying to the east of the Park was enacted by the Legislature and is known as Chapter 455 of the Laws of 1917.

A full text of this law is printed at the end of this volume.

ANIMAL HOSPITAL.

The Society had a large correspondence with the City during the year over the payment of the architect's fee for the Animal Hospital. This matter was finally settled, however, on a basis satisfactory to all parties, by the return from the City of \$790.-94 advanced by the Society to the architect.

CONSERVATION.

During the year, the Society took part in the preservation of the Redwoods of California, and at a meeting of the Executive Committee held on October 11, 1917, the following resolution was passed and forwarded to the proper authorities in California:

Resolved, That the New York Zoological Society cordially endorses the proposed California State Reserve of the great grove of Redwoods known as the Bull Creek Flat grove on Elk River, California, and urges the Governor of California to secure proper legislation or executive action to provide for the permanent protection of these magnificent trees.

There is reason to believe that this splendid stand of Redwoods will be ultimately set aside as a state reserve.

RATTLESNAKE SERUM.

Two hundred and fifty tubes of rattlesnake serum have been received from the Government of Brazil for the use of the United States Army. The Society has reciprocated by sending to Brazil a large collection of live rattlesnakes from Texas.

ELEPHANT HOUSE DOOR.

The African elephant, Khartoum, has increased rapidly in size and is beginning to show the vicious character of an adult male elephant. In order to provide against future contingencies a sliding door has been constructed in the Elephant House so that Khartoum can be transferred from one stall to another without danger. Under the authorization of the Board of Estimate and Apportionment, \$1,400 was transferred from the unexpended balance originally appropriated for the Hospital Building, and was used for this purpose.

ELEPHANT HOUSE ROOF, NESBIT SUIT.

During the month of February, 1917, the corporation Counsel notified the Society that the City had collected \$2,250 from the Peoples Surety Company, surety for Nesbit and Company, contractors, for defective work on the roof of the Elephant House, making a total of \$4,500 collected from Nesbit and Company and their surety.

PARK IMPROVEMENT AND REPAIRS.

During the year, in addition to some smaller items, the entire exterior and interior cages of the Small-Mammal House have been reconstructed, from funds derived from gate receipts.

MEDICAL DEPARTMENT.

The Medical Department, under Dr. George S. Huntington, has continued to utilize the soft parts of such animals as have died during the year, while the skeletons and skins when in good condition have been sent to the American Museum of Natural History where they are utilized for exhibition purposes.

FEDERAL TAXATION OF BEQUESTS.

The Society joined with other institutions during the year in an effort to secure exemption from the federal tax on all bequests to scientific institutions. While successful in obtaining a substantial modification of the Income Tax provision on gifts from income, they were unable to secure exemption from the Federal Inheritance Tax. This tax on bequests for scientific work is regarded by your Committee as a very serious blow to educational institutions and it is hoped that the severe requirements of the present law will be modified in the near future.

WILD LIFE PROTECTION.

During the first half of 1917, great efforts were made to secure a number of new laws for the more thorough protection of game, and also to prevent valuable laws from being repealed. The renewed effort in the New York legislature, by Mr. Kasson, to repeal the famous "buck law" preventing the killing of female deer was defeated.

The Migratory Bird treaty with Canada was ratified and signed by the two signatory powers, and a bill providing for its enforcement was at once introduced in Congress. Through the pressure of war measures, this bill and the Chamberlain game sanctuary bill were both laid aside until the end of 1917.

A great effort was made in eighteen state legislatures in the West to secure laws providing long close seasons for upland

game birds, especially grouse and quail and to secure better protection for mountain sheep and deer. Many valuable results were secured in the form of new laws.

RECEPTIONS.

Reception at Aquarium.—The Annual Reception to members was held at the Aquarium on Monday evening, April 30, 1917, and was a great success. An attendance of about 400 was noted. Members of the Board of Managers and their wives acted as a Reception Committee.

At the Zoological Park, Ladies' Day and Members' Day were consolidated and the joint meeting was held on Thursday, May 17, 1917.

MEMORANDUM OF MEETINGS, 1918.

Annual Meeting of the Society:

January 8, 1918, 8:30 P. M.
Hotel Waldorf-Astoria.

Meetings, Board of Managers:

January 15, 1918, 3:00 P. M.	May 16, 1918, 2:30 P. M.
Annual Meeting	Park Meeting,
Down Town Association.	Preceded by Luncheon at 1:30 P. M.

Annual Dinner,
December 27, 1917,
Courtesy of George F. Baker, Esq.

Meetings, Executive Committee:

January 10, 1918	May 9, 1918
February 14, 1918	June 13, 1918
March 14, 1918	October 10, 1918
April 11, 1918	November 14, 1918
December 12, 1918	

Members' Reception at Aquarium,
8:30 P. M., May 6, 1918.

Members' Day and Ladies' Day at the Zoological Park,
3:00 P. M., May 16, 1918.

ELECTIONS.

At the Annual Meeting of the Society in January, 1917, the following Managers were elected:

Henry Fairfield Osborn,	William Pierson Hamilton,
William C. Church,	Robert S. Brewster,
Lispenard Stewart,	Edward S. Harkness,
Charles F. Dieterich,	William B. Osgood Field,
George F. Baker,	A. Barton Hepburn,
Grant B. Schley,	William Woodward.

Annual Dinner.—The Eighth Annual Dinner of the Board of Managers was held through the courtesy of Mr. C. Ledyard Blair, at his residence, 2 East 70th Street, New York City, on Thursday, February 1, 1917. Short addresses were made by Prof. Henry Fairfield Osborn and Mr. Madison Grant. Mr. Raymond L. Ditmars, Curator of Reptiles at the Zoological Park, gave an extremely interesting exhibition of moving pictures taken at the Zoological Park and in South Carolina.

Spring Meeting.—The Spring Meeting of the Board of Managers was held in the Administration Building of the Zoological Park on Thursday, May 17, 1917, at 2:30 o'clock P. M. A luncheon in the Rocking Stone Restaurant at the Park was served at 1:30 o'clock.

BRONX PARKWAY COMMISSION.

The Bronx Parkway Commission has made rapid progress during the year with improvements and has straightened and cleaned the river bed so as to drain swamp lands preparatory to the construction of the driveway through this parkway. This work and grading and planting operations were carried on at three points: White Plains, Scarsdale, and immediately adjoining the Botanical Gardens. The work of raising the grade of Gun Hill Road by the City and the building of two bridges at

this point will delay the completion of the lower end of the Parkway. The Commission has announced its policy of suspending construction during the war, but this great driveway is now an assured fact, and the water supply of the Zoological Park will be protected from pollution.

AUDITING.

Upon the authorization of your Committee, the auditors, Messrs. Marwick, Mitchell, Peat & Company, made another examination of the system of receiving supplies at the Park during 1917 and reported thereon with certain recommendations which have been adopted.

They are at present making the usual audit of the finances of the Society for the year, which is being greatly facilitated by the new system of checking the accounts quarterly. Their report, as well as that of the Auditing Committee, will immediately follow the report of the Treasurer.

ACKNOWLEDGMENTS.

The relations with all departments and officials of the City's government, and especially with the Park Department, have continued to be most cordial and your Committee are greatly indebted to these officials, as well as the members of the Board of Estimate and Apportionment, for their support and co-operation during the past year.

The Directors of the Park and Aquarium and their respective staffs, have been most zealous and energetic in the performance of their duties and the Society enters upon this new year with the assurance of an ever increasing sphere of activity and usefulness.

Respectfully submitted,

MADISON GRANT, *Chairman,*

PERCY R. PYNE,
WILLIAM WHITE NILES,
WM. PIERSON HAMILTON,
FRANK K. STURGIS,

LISPENARD STEWART,
WATSON B. DICKERMAN,
ANTHONY R. KUSER,
HENRY FAIRFIELD OSBORN,
Ex-Officio.

Extracts from the Minutes
of the
Executive Committee of the Board of Managers
of the New York Zoological Society

June 12, 1917

on the occasion of the

Death of Col. William Conant Church

Resolved, That this Committee learns with deep regret of the death on the 23rd day of May, 1917, of the late William Conant Church, one of the founders of the Society, and a member of the Board of Managers since its organization. Col. Church was greatly devoted to the interests of the Society, and his loss will be greatly felt by his associates.

December 13, 1917

on the occasion of the

Death of Mr. Grant Barney Schley

Resolved, That the Executive Committee of the Board of Managers expresses its profound regret on the death of the late Grant Barney Schley, a member of the Board of Managers, Class of 1920, on November 22, 1917.



From a photograph by Elicin R. Sanborn

ADULT FEMALE CHIMPANZEE

This picture was included to show the tremendous muscular development of the arms, and the powerful hand. Her weight is about 135 pounds. As the animal was used for exhibition purposes, the forearms and face were shaved.

REPORT OF THE DIRECTOR OF THE ZOOLOGICAL PARK

TO THE BOARD OF MANAGERS.

OF all the institutions for objective education, none are more sensitive to the vicissitudes of war than zoological parks. The permanence of museum and art exhibits are at once the envy and the despair of vivarium zoologists. The perpetual recurrence, in inexorable succession, of arrival, death and departure, renders life in a collection of living things a constant struggle for equilibrium.

As a mechanical cut-off in the annual supply of live animals, a great war possesses boundless possibilities for mischief. At this moment the procuring of a giraffe from Africa would be almost as difficult as the obtaining of a live mammoth from Alaska; for both are equally impossible. By impossibilities in transportation, the entire supply of African antelopes now is cut off, as completely as if Africa had sunk to the depths of the sea. At the same time, the world's stock of antelopes is diminishing by death.

Strange to say, however, the annual West African output of chimpanzees continues to arrive, both in London and in New York; and occasionally a baby orang survives the voyage from Singapore.

During the past year (1917), the bird collections of the Zoological Park have been kept quite up to high-water mark, for which the Assistant Curator of Birds, Mr. L. S. Crandall, is deserving of great credit. His diligence in exploiting the live-bird market, far and near, is alone responsible for our high figures both in species (813) and in specimens (2,799).

In the mammal collections no falling off worthy of mention has occurred; and in one direction a great success has been scored. We have brought together a collection of kangaroos that is so large and so rich in species that it appears to have only

one rival, which is to be found in the celebrated Zoological Garden at Melbourne, Australia, under the direction of the distinguished naturalist, Mr. W. H. D. LeSouef. That kangaroo collection is, according to all records, a zoological equivalent of our own.

The reptile collection has suffered somewhat in unreplacable losses of all world species; but at the same time it has gained in species from South America and Australasia. Fortunately our rarest species still are with us, and our giant tortoises seem to be indifferent to the flight of time.

During the early summer of 1917, in order to make a test of the rationing system of the large mammals, the Director ordered a horizontal reduction in the daily rations of the elephants, rhinoceroses, bears, lions, tigers and leopards. This reduction varied from 10 to 30 per cent, and it was hoped that the result might lead to a considerable permanent saving.

The result was a complete failure. All the animals affected by it so quickly lost flesh and went out of condition that after four months the experiment had to be abandoned. The bears suffered most severely. They became emaciated, their coats became dull and lustreless, and they were in a constant state of irritability from unsatisfied hunger.

We found that our rationing could not be appreciably reduced; and it required three months to bring our animals back to their normal good condition.

EUROPEAN ZOOLOGICAL GARDENS.

It is a satisfaction to be able to state that in Great Britain, France, Holland, Denmark and Spain, the zoological gardens have been firmly held together, and thus far have survived the strain of war remarkably well. Marvellous to relate, the Antwerp Garden still is a "going concern," but its scanty maintenance is derived from its amusement features rather than from the exhibition of animals. Regarding the gardens of Germany and Austria there is no news; but in view of the awful scarcity of meat and forage, their condition easily can be imagined.

At the close of the war it will be the bounden duty of all American zoological parks to do their utmost toward the restocking of the institutions of Belgium, France and England,

and American zoologists will do well to be thinking now of that task. Already the New York Zoological Society has taken definite steps looking toward the rehabilitation of the collections of the Antwerp Gardens, just as soon as the Germans have evacuated Belgium.

ATTENDANCE OF VISITORS.

Quite contrary to our expectations, the attendance last year of visitors at the Zoological Park increased instead of diminished. The total for the year 1917 was 1,898,424, a gain over 1916 of 241,604. The total attendance at the Park for the eighteen years from 1900 to 1918 was 24,934,499. The monthly figures for 1917 were as follows:

	1917	1916
January	74,238	67,129
February	83,353	38,791
March	89,853	79,645
April	208,723	175,002
May	195,859	233,425
June	263,912	170,582
July	246,944	235,873
August	250,050	185,965
September	216,267	175,934
October	131,467	143,948
November	108,421	84,712
December	29,337	65,814
	<hr/>	<hr/>
	1,898,424	1,656,820

WAR ACTIVITIES AT THE PARK.

In several ways the Park force has been drawn into activities connected with or contributing to the war.

Military Company of the Zoological Park.—Immediately after the declaration of war, it was decided to form in the Zoological Park a military company, incidentally for the defense of the Zoological Park against possible riots, but chiefly as a contribution to the defense of the city of New York and its vicinity. In accordance with this purpose, 48 picked men of the Zoological Park forces were organized as Company A of the Zoological Park

Guards, with the following officers: R. L. Ditmars, Captain; W. Reid Blair, 1st Lieutenant; W. I. Mitchell, 2d Lieutenant; Charles B. Gleason, 1st Sergeant; Charles E. Snyder, Quartermaster Sergeant; John Rose, 2d Sergeant; Stephen Beebe, Color Sergeant.

The Company was immediately uniformed, equipped, and armed with Springfield carbines, at the expense of the Zoological Society; and even at this date it is the only company of the Home Defense League of New York City which is armed with rifles. The drilling of the Company was promptly taken in hand by Capt. John Ievers, of the 68th precinct of the New York Police Department, and by him, and with the assistance of members of his staff, the Company was drilled to a high state of efficiency.

The Company made its first appearance in public on Members' Day, at which time it was presented by the Executive Committee of the Society with a national flag.

Through the enterprise and energy of Captain Ditmars, ably assisted by Mr. I. Richker, of Yonkers, the Zoological Society acquired vested rights in the rifle range of the Yonkers Rifle Club, situated within convenient distance of the Zoological Park. Throughout the summer the members of Company A were taken, on two days of each week, to the rifle range for rifle practice at ranges of 100 and 200 yards. Excellent results were secured, and the men of the Company were made thoroughly familiar with their weapons. The marksmanship finally attained by the members of the Company was highly gratifying.

At the approach of winter, the Zoological Park Company was supplied by the city with heavy winter overcoats, and thereby still further became officially recognized as a part of the police reserve force created for the more thorough protection of New York during the war.

Naturally, the presence of this force of armed men in the Zoological Park, subject to the call of the Captain of the 68th Precinct, is a satisfaction both to the Police Department and to the Zoological Society.

Since the formation of the Company, several of its members have taken their places in the regular army of the United States, leaving vacancies which must be filled at an early date. A complete roster of the Company, as originally enrolled, is as follows;

and the asterisks indicate the officers and men who are now in the service of the United States.

ZOOLOGICAL PARK GUARDS, COMPANY A.

Raymond L. Ditmars, Captain.

Wm. I. Mitchell, 1st Lieut.	*W. Reid Blair, 2nd Lieut.
Fred McTaggart, 1st Sergt.	Stephen Beebe, 2nd Lieut.
John J. Rose, 2nd Sergt.	Richard Spicer, Color Sergt.
Chas. E. Snyder, Quartermaster Sergt.	

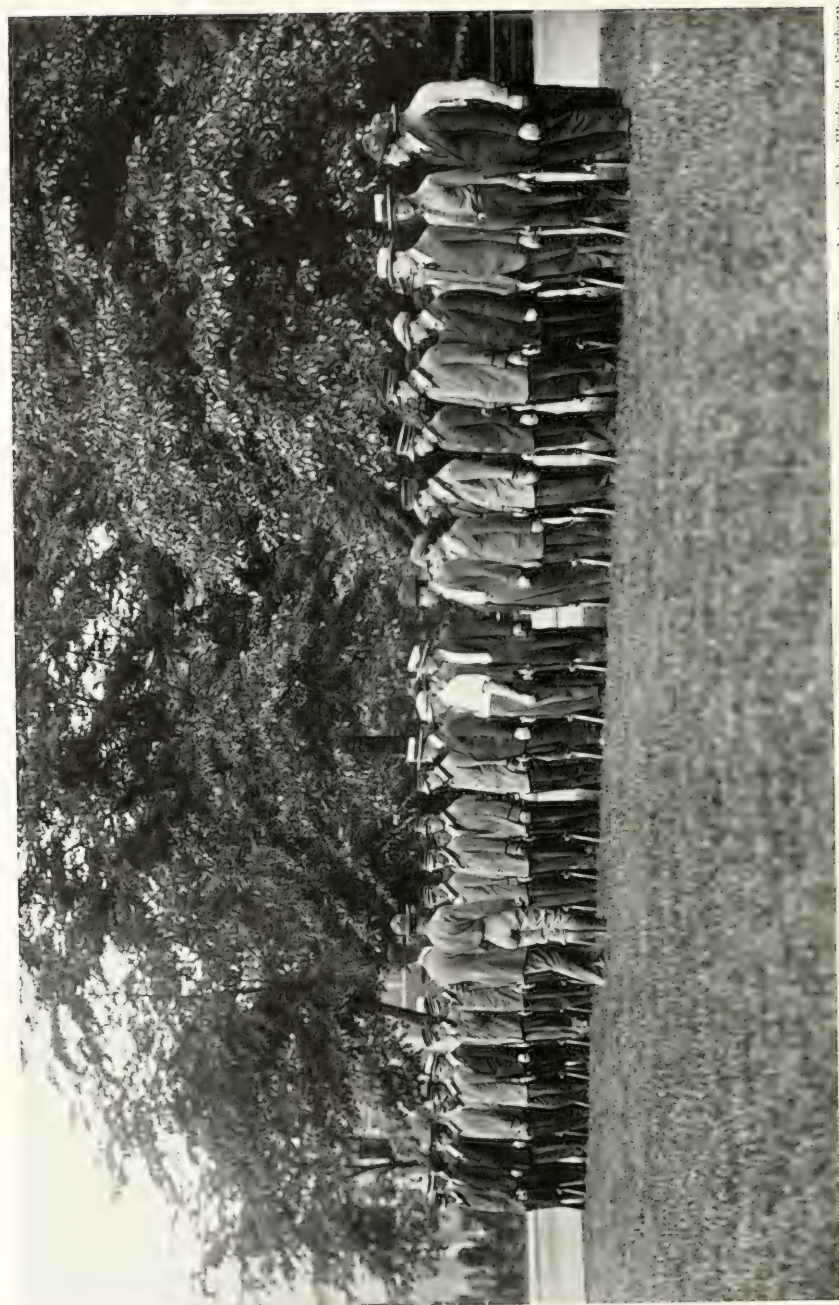
Corporals.

Herbert Atkins	Ernest Banks
John Toomey	Elliot King

Privates.

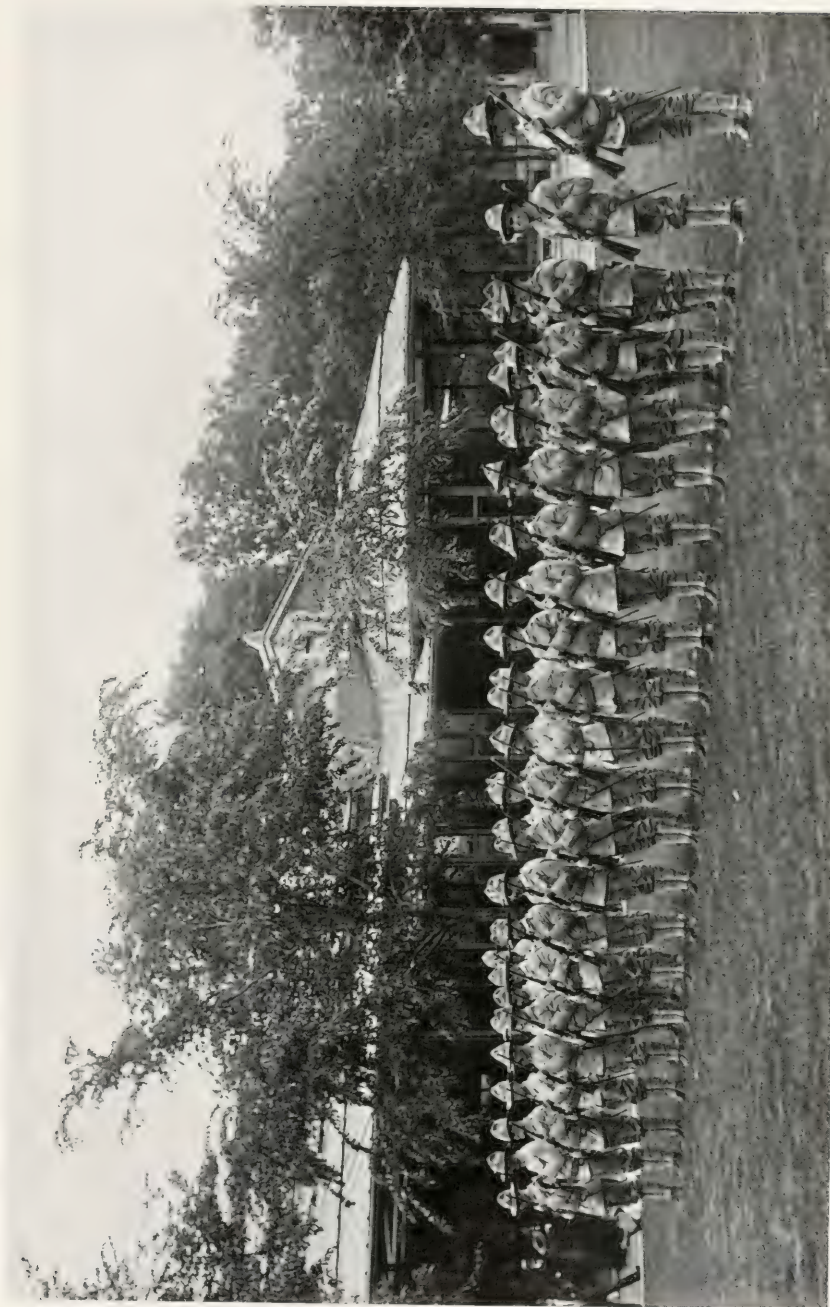
Banks, Ernest	Kiefer, Theo.	*Newman, C. J.
*Carter, Donald	Kress, Geo.	Palmer, Geo.
Dennin, Chas.	Lansburg, Max	Romanoff, Peter
*Doyle, Frank	Marburger, Peter	Quigley, Jas.
*Engholm, Howard	McBride, Wm.	*Reuter, Edw.
Ferguson, A.	McCarthy, T. J.	Richards, R.
Flood, Wm.	McGivney, A.	Reilly, J. J.
Fox, Edward	Miller, George	Rose, Wm.
Ganz, Nicholas	Mucha, Wm.	Schlosser, D.
Heeb, Frank	Muir, Bert	Skene, Geo.
Kaiser, Joseph	Muir, Lochart	Spicer, Richard
Kelly, Patrick		Thuman, Walter

Zoological Park Defense Committee.—The Chief Clerk, as Secretary, and the Cashier as Treasurer of the Zoological Park Defense Committee, have to the extent of their ability aided and co-operated in all the activities of this Committee. A Red Cross desk was maintained in connection with the Working Red Cross Base at the Lion House, in charge of ladies volunteering for the service. The young women employed in the Chief Clerk's office,



ZOOLOGICAL PARK GUARDS AS FIRST ASSEMBLED

From a photograph by Elinor K. Sanborn



From a photograph by Etta R. Sanborn

ZOOLOGICAL PARK GUARDS EQUIPPED AND DRILLED

including Mr. Sanborn's assistant, Miss Newman, took turns at that desk on Sundays and holidays. Red Cross memberships were solicited, as well as contributions for the purpose of purchasing materials for supplies made by the volunteer workers. One hundred and seventy-one memberships were obtained, and cash contributions were secured to a total of nearly four hundred dollars. The Financial Statement of the Defense Fund follows. Owing to the absence of Mr. Beerbower, Chairman of the Committee on Red Cross labor, we append a brief statement of large subscriptions obtained, and of work accomplished by volunteer workers, who have been most faithful in their attendance at the Working Base, in the Lion House.

FINANCIAL STATEMENT
OF THE
ZOOLOGICAL PARK DEFENSE COMMITTEE,
FOR THE YEAR 1917.

RECEIPTS

Wm. Pierson Hamilton	\$250.00	
Friends of Mr. Hamilton	250.00	
Cleveland H. Dodge	100.00	
Frederick G. Bourne	50.00	
Wm. Osgood Field	20.00	
Lispnard Stewart	100.00	
Mortimer L. Schiff	100.00	
Dr. Lewis R. Morris	100.00	
George C. Clark	50.00	
H. M. Tilford	50.00	
Frank K. Sturgis	100.00	
Henry F. Osborn	25.00	
Percy R. Pyne	150.00	
W. B. Dickerman	100.00	
Harvey A. Van Cott	25.00	
Geo. N. Reinhardt	50.00	
A. P. Dienst Co.	50.00	
Solomon Lipman	20.00	
John P. Fritts	25.00	
C. Rupert & Son	25.00	
Ellis S. Joseph	20.00	
		\$1,660.00
Zoological Park Officers		270.00
Miscellaneous Collections at Lion House		395.51
		<hr/>
		\$2,325.51

EXPENDITURES

Red Cross materials	\$923.54	
Fordham Hospital Unit	35.00	
Sewing Machines purchased	294.00	
Sewing Machines rented	81.00	
Printing, Decorations, etc.	150.72	
Miscellaneous Expenses	8.23	
		1,492.49
Bank Balance, January 1, 1918		833.02
		\$2,325.51

Correct.

WILLIAM MITCHELL,
Treasurer.

Red Cross Working Base.—The first step was the development of a Red Cross working base, in the Lion House, under the direction of the American Red Cross Service. A platform 90 feet long and 12 feet wide was erected over a portion of the public space, on which were installed 16 Singer sewing machines and a series of tables. The labor was all volunteered, by the women of northern New York City and its environs, and the work was performed under the direction of Mrs. J. B. Turk, Mrs. Bernard McEnroe, Mrs. H. Raymond Mitchell and Mrs. H. W. Merkel. This working force was devoted solely to the making of garments, chiefly woolen pajamas, jackets, bath robes and slippers.

LIST OF RED CROSS SUPPLIES MADE AT THE WORKING BASE AT THE LION HOUSE
TO DECEMBER 31, 1917.

GENERAL ARTICLES

Red Cross Caps	35
Red Cross Aprons	23
Surgical Shirts	158
Pajamas	419 pairs
Sheets	378
Pillow Cases	267
Convalescent Robes	110
Water Bag Covers	61
Felt Slippers	24 pairs

KNITTED ARTICLES

Sweaters	20
Mufflers	20
Helmets	17
Wristlets	23 pairs
Bed Socks	11 pairs
Socks	15 pairs
Face Cloths	77



From photographs by Eliot R. Sanborn

FLYING MAMMALS FROM OPPOSITE SIDES OF THE GLOBE

The upper picture is our common Flying Squirrel and the lower, the Flying Phalanger of Australia. There is a marked similarity of the flying membrane.

In addition to the above, thirty-nine large packing cases for shipping Red Cross materials were made in our shops; the carpenters volunteering to do the work after hours. The materials for twenty-four of these were paid for by the Bronx Chapter of the Red Cross and the remainder from the Zoological Park Defense Fund.

Flag Raising.—On March 31 a flag-raising ceremony took place at the north end of Baird Court. The occasion was utilized as an opportunity to make a trial mobilization of the Boy Scouts of the Bronx, and on six hours' notice about 900 Scouts assembled in uniform. A patriotic address was delivered by Hon. Douglas Mathewson, Borough President, which was followed by an address from the Director of the Park. The music for the occasion was kindly furnished by the Catholic Protectors Band, and the national colors were hoisted on a flag-staff 55 feet high, situated on the axis of Baird Court, midway between the entrances of the Administration Building and the Tropical Bird House.

War Crops.—In view of the high and ever-increasing cost of animal food, every quarter-acre of land in the Zoological Park that could with propriety be spared for agricultural purposes was plowed and planted. A large section of the Elk Range, a Wild Horse Range, a glade in the forest and new grounds at the Nursery were planted in corn for green fodder, beets, turnips, potatoes, lettuce, sunflower and carrots, and carefully cultivated.

The results were in the main very satisfactory, but on some of the ground the crops of the second year will naturally be better than those of the first. It is roughly estimated that our farming operations effected a saving of about \$2,500.

DEPARTMENT OF MAMMALS.

W. T. Hornaday, Curator; R. L. Ditmars, Assistant Curator.

Notwithstanding the well-nigh complete stoppage of wild animal importations from Europe and Asia, our Zoological Park collections have been fully maintained, both in species and in specimens. The census at the close of the year 1917 shows a loss of only three species and seven specimens. The losses that occurred by death have been made good by rich collections received from Australia and South Africa.

The chief event of the year was the receipt of another collection from Australasia, brought by Mr. Ellis S. Joseph, and even surpassing the collection delivered by him in 1916. On July 16, we received from this source the following: 1 thylacine, 3 hyrax, 2 water mongoose, 1 echidna, 2 rabbit-eared bandicoots, 3 West Australian rat kangaroos, 1 tree kangaroo, 3 yellow-footed rock wallabies, 3 Woodward kangaroos, 1 wallaroo, 1 brush-tailed wallaby, 2 short-tailed wallabies, 1 Paddy-mellen wallaby, 2 rufous-necked wallabies, 2 Tasmanian black phalangers, 6 common phalangers, 3 dusky phalangers, 3 gray phalangers, 4 opossum mice, 3 Papuan flying phalangers, 1 Australian flying phalanger and 3 Australian water rats.

Next in importance to the above was the arrival of Mr. J. Alden Loring from South Africa on January 3 with a mixed collection of mammals, birds and reptiles for the joint benefit of the Philadelphia Zoological Gardens, the National Zoological Park at Washington and our own institution. This initial undertaking, made solely on account of the war and the stoppage of our regular wild animal trade between Africa and Europe, was regarded merely as the first of a continuous series of efforts in Africa. While the expedition was very hastily set on foot and dispatched, Mr. Loring worked in Africa with such intelligence and diligence that in spite of all difficulties he brought together a collection that very nearly paid the expenses of the effort, figured on a basis of the regular market prices of wild animals here in New York.

The wild-animal proceeds of the expedition were equitably divided between the three institutions which were jointly concerned, and the New York Zoological Society received the following: 1 golden baboon, 4 green monkeys, 1 vervet monkey, 2 meerkats, 2 crested porcupines, 2 brush-tailed wallabies, 1 ring-tailed wallaby, 1 beisa antelope, 1 nyulghai, 1 blessingbok, 4 springboks, 1 white-tailed gnu and 2 duiker antelope.

One of the best results of Mr. Loring's visit to Africa was the establishing of close relations with the National Zoological Gardens of South Africa at Pretoria, of which Dr. A. Haagner is the Director. It is now absolutely certain that the relations established between us and the National Zoological Gardens of South Africa will result in great benefit for all four institutions concerned. Dr. Haagner is now diligently bringing together a collection of rare animals, to be held at Pretoria at our expense for maintenance until the close of the war, when it will promptly

be shipped to New York. We entertain the hope that it will be possible for Mr. Haagner to pay a visit to America in connection with the transportation of the shipment that is now being collected. If he comes to America we will endeavor to see that he does not return empty-handed to his zoological park.

The hurried and brief visit of Mr. William Beebe to British Guiana in September and October yielded for the Zoological Park a fine young tapir, a spotted cavy, and the beautiful silky ant-eater fully described and illustrated by Mr. Beebe in the *Zoological Society Bulletin* for January, 1918.

Among the miscellaneous purchases of the year the following are worthy of mention: 2 Japanese red-faced monkeys, 1 chimpanzee, 1 chacma baboon, 1 golden baboon, 2 yaguarundi cats, 2 South American martens, 4 red foxes, 2 ocelots, 1 coyote, 1 South American fox, 1 bay lynx, 5 spotted covies, 1 tree porcupine, 1 tayra, 1 great ant-eater 2 Lund's opossums and 3 mule deer.

The desire of regiments in the American army to possess and transport to France regimental mascots resulted in a general prohibition of mascot exportation, and the presentation to the Zoological Park of a number of specimens. Through this channel we received, as company or regimental gifts, 4 young black bears, 2 young cinnamon bears and a young goat that had made a trial trip of 700 miles in an aeroplane. Among other gifts received were 3 macaque monkeys, 1 rhesus monkey, 2 white-faced sapajous, 1 Canada porcupine, 5 common raccoons, 1 crab-eating raccoon, 2 coyotes, 1 coati mundi, 2 red foxes and 1 Mexican deer. The most noteworthy gift of the year consisted of 2 black-faced kangaroos and 2 Woodward kangaroos presented by Mr. Ellis S. Joseph.

The following is a list of the births during 1917:

4 Axis Deer	7 Himalayan Tahr
3 Elk	3 Aoudad
2 Virginia Deer	2 Mouflon
6 Red Deer	1 Eland
1 Eld's Deer	3 Buffalo
1 Sambar Deer	1 Yak
3 Fallow Deer	1 Grant Zebra
3 Hog Deer	5 Gray Wolves
2 Barasingha Deer	2 Cape Hyrax
1 Sika Deer	

The following animals were sold during 1917: 1 Barasingha deer, 1 red deer, 4 Axis deer, 2 elk, 4 Virginia deer, 12 Himalayan tahr, 8 prairie dogs, 2 timber wolves, 9 raccoons, 2 opossums, 1 macaque monkey, 2 Prjevalsky horses and 2 yaks.

Deaths: Following is a list of important deaths during 1917:

Tree kangaroo, puma, Yezo bear, three sea lions, black-faced chimpanzee, orang-utan, African porcupine, duicker deer, sina-loa deer, hangul deer, Rocky Mountain goat, sable antelope, beatrix antelope, Speke sitatunga, white-bearded gnu, European bison, beisa antelope, Persian wild ass and Chapman zebra.

A census of the collection of mammals compiled on December 31, 1917, is as follows:

	<i>Species.</i>	<i>Specimens.</i>
Marsupialia	26	58
Edentata	1	1
Carnivora	51	93
Pinnipedia	1	2
Rodentia	31	141
Primates	28	55
Artiodactyla (Even-toed Ungulates)	51	237
Perissodactyla (Odd-toed Ungulates)	13	20
Proboscidea	2	3
	<hr/> 204	<hr/> 610

DEPARTMENT OF BIRDS.

William Beebe, Curator; Lee S. Crandall, Assistant Curator;
Samuel Stacey, Head Keeper.

Since the beginning of the war, live bird arrivals in this country from the Old World have been few. In 1917, they were almost negligible, although a fair number of specimens continued to reach us from Australia and South America. In spite of these difficulties, our bird collection remains practically at its best, but if the present congested condition of sea traffic continues during 1918, we must expect a diminution to occur.

The impossibility of obtaining certain kinds of food used in normal times, has forced us to seek numerous substitutes. On

the whole, our efforts have been quite successful, and despite changes and economies once believed impossible, our collections never were in better general condition.

Among the year's accessions, the most important were those brought by Mr. Ellis S. Joseph, who arrived from Australia in July, with a great assortment of birds and mammals. Among the more striking were two tawny frogmouths, (*Podargus strigoides strigoides*) ; two Count Raggi's birds of paradise, (*Paradisea raggiana*) ; a white goshawk, (*Leucospiza novae-hollandiae*) ; two regent birds, (*Sericulus chrysocephalus chrysocephalus*) ; a pheasant coucal, (*Polophilus phasianus phasianus*) ; a northern flock pigeon, (*Histriophaps histrionica alistera*) ; two purple-crowned fruit pigeons, (*Ptilopodiscus coronulatus*), and two amethyst pigeons, (*Phlogoenas kubaryi*), from the Ruk and Caroline Islands. This certainly was the finest collection of Australasian birds ever received by us.

The Tropical Research Station contributed a number of desirable birds, including the rare imperial Amazon parrot, (*Amazona imperialis*), a Guiana hawk-headed parrot, (*Deroptyus accipitrinus accipitrinus*), several toucans and numerous small birds. From a local dealer we obtained an uncommonly fine specimen of the rare Brazilian hawk-headed parrot, (*Deroptyus accipitrinus fuscifrons*), so that we now have representatives of each form of this attractive bird.

The Loring African Expedition, returning late in January, brought a number of birds, for division among the zoological parks of Washington, Philadelphia and New York. To our lot, among others, fell a pair of the lovely white-crested touracos, (*Turacus corythair*), once fairly common in the market, but now never seen; a jackal buzzard, (*Buteo jackal*), a spotted eagle owl, (*Bubo maculosus*), and a pair of horned guinea fowl, (*NNumida coronata*).

Among the few birds which reached us via England, through a New York dealer, were four beautiful Indian hill partridges, (*Arboricola torqueola*) ; a pair of African yellow-billed ducks, (*Anas undulata*), a mallard-like species not previously represented in our collection, and two wedge-tailed fruit pigeons, (*Sphenocercus sphenurus*). We now have five species of these brilliantly plumaged but delicate birds, as follows: The nutmeg fruit pigeon (*Myrmisticivora bicolor spilorrhoea*), from Australia; the blue-tailed (*Carpophaga concinna*), Aru Islands; the



From photographs by Elwin R. Sanborn

TAWNY FROGMOUTH; A LARGE RELATIVE OF THE GOATSUCKERS

In the presence of an owl, the bird ruffled its plumage and manifested intense excitement; extending to its full height and then crouching close to the perch, in rhythmic fashion.

purple-crowned (*Lamprolaima superba*), Australia; the painted (*Ptilopus coronatus*), Aru Islands and New Guinea, and the wedge-tailed.

From the same dealer we acquired, in November, a magnificent male lesser bird of paradise, (*Paradisca minor*), and an Indian pied hornbill, (*Anthracoceros albirostris*). These birds were shipped from India by way of South Africa, and in spite of their long journey, arrived in excellent condition.

In the same month, through the kindness of Mr. T. A. Have-meyer, we received a pair each of the semi-palmated goose, (*Anseranus semipalmata*) and the European little white-fronted goose, (*Anser erythropus*). Both species are rare and interesting, and the gift forms an accession of importance.

Again the season was unfavorable for breeding, although its results were fairly satisfactory. Our emus brought up three fine young birds, the family arousing much interest among visitors. For the first time in our history, we succeeded in rearing a mute swan. Three were hatched on Lake Agassiz and transferred, not without difficulty, to the Beaver Pond. Unfortunately, the pond was inhabited by several huge snapping turtles, which destroyed two of the young birds before the presence of the reptiles was discovered. The bird is now well grown, but still in the sooty plumage of youth.

Our mourning doves did well, and again we liberated a number of young birds. We now have several flying at liberty, which return to the Pheasant Aviary to feed and roost with the Barbary turtle doves.

Some wood ducks were brought to maturity, as well as a pair of hybrid ducks, apparently the offspring of a male white-eye and a female wood duck. Two Upland geese, (*Chloephaga magellanica*) were hatched, and one was well grown, when it was taken by some nocturnal prowler. There is no record of this species having been successfully bred in this country.

The concrete bottom placed in the Wild Fowl Pond in 1916 has shown itself well worth the trouble incurred in laying it. No outbreak of the once annual coccidiosis took place. Late in the autumn, the water was drawn off and a great quantity of mud and debris, which ordinarily would have become incorporated in the pond bottom, was removed.

The collections of the Zoological Society never were richer in rare and unusual bird species than now. That the vast amount of valuable scientific material which becomes available at the death of these specimens may be utilized to the fullest, improved arrangements have been made with the American Museum of Natural History and the College of Physicians and Surgeons. The small amount of material not required by these institutions is sent gratis to others. The work of facilitating the disposal of these specimens has been assigned to the Assistant Curator of Birds, and their distribution has been carefully systematized.

CENSUS OF BIRDS LIVING IN THE ZOOLOGICAL PARK.

January 1, 1918.

<i>Orders.</i>		<i>Species.</i>	<i>Specimens.</i>
Struthioniformes,	Ostriches	2	3
Casuariiformes,	Cassowaries and Emus...	3	12
Tinamiformes,	Tinamous	2	4
Galliformes,	Quail, Pheasants, etc.....	69	207
Turniciformes,	Hemipodes	2	4
Pteroclidiformes,	Sand Grouse	1	1
Columbiformes,	Pigeons and Doves.....	62	185
Ralliformes,	Coots and Gallinules.....	11	15
Sphenisciformes,	Penguins	1	2
Lariformes,	Gulls and Terns	13	46
Charadriiformes,	Plovers and Sandpipers...	7	11
Gruiformes,	Cranes, Seriemas, etc.....	11	22
Ardeiformes,	Ibises, Storks and Herons	34	74
Palamedeiformes,	Screamers	2	2
Phoenicopteriformes,	Flamingoes	2	3
Anseriformes,	Swans, Geese and Ducks	66	605
Pelecaniformes,	Cormorants and Pelicans	10	20
Cathartidiformes,	New World Vultures.....	7	17
Accipitriformes,	Hawks and Eagles; Old World Vultures	26	41
Strigiformes,	Owls	12	31
Psittaciformes,	Parrots, Macaws and Cockatoos	84	163
Coraciiformes,	Kingfishers, Hornbills, etc.	6	12
Cuculiformes,	Touracos and Cuckoos....	5	7

Scansoriformes,	Barbets and Toucans.....	9	14
Piciformes,	Woodpeckers	4	8
Passeriformes,	Thrushes, Sparrows and other perching birds..	362	1290
		<hr/>	<hr/>
		813	2799

Summary: Orders, 26; Species, 813; Specimens, 2,799.

DEPARTMENT OF REPTILES.

Raymond L. Ditmars, Curator.

Throughout the year the department was maintained at a uniformly high standard, but there were various difficulties in obtaining specimens and keeping the cages properly filled. With the exception of a moderate number of Australian specimens received during the summer, no foreign reptiles were obtainable. The arrival of the Australian reptiles was rather a mishap, as they spread a parasitic disease among several valuable specimens that had long been in the collection, and these were necessarily destroyed to prevent a general epidemic. Aside from these casualties there were few losses of importance throughout the year.

With no market for the purchase of foreign specimens it was necessary to fill the gaps from losses of the small specimens with local material. Keeper George Palmer, of the Reptile House staff, collected a large number of snakes of various species in the mountains of Pennsylvania. Local collectors brought in many specimens, and we made many purchases of snakes, lizards, turtles and amphibians from collectors in the southern states. A considerable number of small amphibians and lizards required additional cages, as did the steadily growing economic rodent-reptile collection, which has attracted much interest. Owing to shortage of labor, the Reptile House keepers built all the necessary cages in a workshop fitted up by themselves, and produced excellent results, both in wood and metal construction.

The establishment for breeding small stock used as freshly killed food, and maintained for a number of years in a small room of the Reptile House, was elaborated in design and removed to a much larger room in the Small Mammal House where much better results will be obtained. The room vacated was

renovated and now serves as moth-proof storage for the winter equipment of uniforms of the Zoological Park rifle company, which is officially connected with and subject to the call of the New York Police Department, in case of grave emergencies.

Owing to the serious shortage of coal, the Reptile House is being maintained at a lower winter temperature than ever before. The collection is being very closely watched, and while there is a tendency of specimens to feed very sparingly we do not anticipate serious losses. The cost of feeding the reptiles always has been extremely low as compared with the other animal buildings, but we have sought to economize, by all practicable methods, even using waste from other buildings, such as banana skins and meat fragments.

Early in 1917, the Department of Reptiles received a shipment of tubes of anti-venomous serum for the treatment of snake bite. This serum was produced specifically for the treatment of bites of rattlesnakes, and its effect is much more efficacious than serums produced by immunization from mixed venoms and used for the bites of various types of poisonous snakes.

The shipment of serum was received through the courtesy of Dr. Vital Brazil, Director of the Institute of Serum Therapy, at Butantan, Sao Paulo, Brazil. Dr. Brazil's scientific achievements in the treatment of snake-bite in his native country are now world renowned.

Fifty tubes of the serum (anti-crotalico) were sent immediately to Col. H. Fisher, of the Medical Corps, U. S. Army, at Washington, D. C. Col. Fisher distributed these tubes among army units stationed in the South. These tubes were a gift to the government by the New York Zoological Society.

It was our understanding with Dr. Brazil that in exchange for the serum we were to send him a consignment of poisonous snakes, from which he could extract venom for the immunization of additional animals. We obtained a large consignment of big rattlesnakes from Texas, and these reptiles were placed in strong shipping crates and shipped by the Lloyd-Brazilian Line during the early summer.

We are maintaining a reserve supply of serum at the Park and occasionally have calls for it. Two cases of snake-bite were successfully treated in the city during the past summer from serum obtained from our stock.

It should be understood that this serum is not for sale, but that a charge of two and a half dollars is made for the use of each tube and the funds obtained will be used to purchase reptiles for Dr. Brazil's institution.

Following is a census of the reptile collection compiled December 31, 1917:

	<i>Species.</i>	<i>Specimens.</i>
Crocodilia	3	89
Chelonia	31	213
Lacertilia	15	57
Ophidia	45	168
Amphibians	18	117
Total	112	644

SUMMARY OF COLLECTIONS.

A census of the animals in the Zoological Park, taken January 1, 1918, is as follows:

	<i>Species.</i>	<i>Specimens.</i>
Mammals	204	610
Birds	813	2,799
Reptiles and Amphibians	112	644
Total	1,129	4,053

DEPARTMENT OF ADMINISTRATION

H. R. Mitchell, Chief Clerk and Manager of Privileges; Wm. Mitchell, Cashier.

The budget application for the maintenance of the Park for 1918 included an addition of \$8,026 to provide for an increase of ten per cent. in the salaries of all employees drawing less than \$1,300 per year, which amount had been supplied by members of the Board of Managers as an emergency bonus in 1917. The justice of the request was recognized by the Board of Estimate, and the additional sum was granted for 1918.

While this puts the annual Maintenance Fund above \$200,000 for the first time, it does not give us any increase in the amount available for food and supplies. We are confronted with



From a photograph by Elsie R. Sanborn

WINTER UNIFORMS OF THE PARK GUARDS

the difficult problem of feeding our collections and maintaining the Park at unprecedentedly high prices for all foods and supplies, on a sum actually less than was required in 1914.

The Administration Department lost the only two employees it had that were eligible for military service during 1917. Cyril J. Newman, our stock Accountant, volunteered for service in the Navy. He left us on August 25, and is now attached to the transport *President Grant*. Edward Reuter, an assistant gate-man, was drafted into the National Army on August 31, and is now in training at Camp Upton.

Anthony Saracena, an employee of the Privilege Department, was also drafted into the National Army on October 1.

Funds and Accounts.—There were no changes, practically, in the accounts during the year. One new fund was created, called the "Salary Bonus Fund," which was made up of the subscriptions of members of the Board of Managers for the purpose of paying the ten per cent. salary bonus to all low salaried employees for the year 1917. These amounts were disbursed monthly by the Chief Clerk under a special pay roll, and the fund automatically closed out at the end of the year. The subscribers to this fund were as follows:

Emerson McMillin	Ogden Mills
Edw. S. Harkness	Andrew Carnegie
Cleveland H. Dodge	Wm. Pierson Hamilton
Mortimer L. Schiff	E. C. Converse
Grant B. Schley	

The improvement and Repair Account was also closed for the year by transferring the small unexpended balance to the Animal Fund. There were but two open Corporate Stock accounts in the Ground Improvement Fund on December 31, both of which will be closed by the recall of unexpended balances early in 1918; the improvements having been completed.

The usual audit of accounts was made, and the certificate of the Auditors appears in connection with the Financial Statements, published elsewhere in this report.

Relief Association.—It will be of interest to the members of the Zoological Society to note the results accomplished by the Zoological Park Relief Association. This is an employee's organization, supported by them purely for the relief and benefit

of employees and their families. The total sum collected since it was organized in 1901 to December 31, 1917, for initiation fees, dues and interest on funds was \$7,293.14. During the same period seventy-two death claims have been paid to members and their families, aggregating with all expenses \$5,501.69, leaving a balance in the Treasury of \$1,791.45.

Co-operative Store.—As an aid to Park employees in meeting the constantly increasing cost of food, the Zoological Society authorized the opening of a co-operative store, agreeing to furnish the capital and pay the greater part of the operating cost.

A portion of the store room for maintenance supplies in the west end of the Service Building was taken for this purpose, and the first stock of groceries was put in just before the close of the year 1916. Coupon books are sold to employees, and deductions therefor are made from their pay envelopes. Goods are sold at a very slight advance on cost, to cover the expenses not borne by the Zoological Society; and at the end of the year the net profits are distributed pro rata to purchasers of the coupon books. While the capital available and its purchasing power is not sufficient to enable us to take advantage of market conditions to any great extent, we have been able to effect savings to employees that in the course of a year's time amount to a considerable sum. The total business of the co-operative store for the year was approximately \$8,000. At the close of the year we were able to declare a dividend of one per cent to the purchasers of coupon books, and it is estimated that the total saving to employees exceeded five hundred dollars.

Privileges.—While the general condition of business during the year 1917 as affecting this department was by no means normal, we were able to make a very much better showing than last year in the privileges as a whole. Attendance at the park for the year showed an increase of nearly fifteen per cent over 1916, and there was a corresponding increase in the receipts in practically all divisions of the Privileges. Excellent results would have been shown but for the greatly increased cost of supplies that entered into our operations.

Employees of the Privilege Department were not included in the arrangements made for a ten per cent salary bonus in 1917 for all Maintenance employees drawing less than \$1,300. We felt, therefore, that some arrangement for a similar bonus should be provided, and such a proposal was made to the em-

ployees of the Privileges, to be based upon the net results for the season. The interest of all was thus enlisted, and we believe the co-operation resulting had a very satisfactory effect on the final figures. At any rate, we were able to give the bonuses, several hundred dollars in the aggregate, and the distribution was made just before the end of the year, in a lump sum to each employee.

Rocking Stone Restaurant.—Difficult as the problem has been for several years of maintaining a given standard of service at the Rocking Stone Restaurant without incurring serious losses, it became almost impossible in the past year. The gross receipts were reduced but slightly, but advancing prices on all supplies involved a loss for the year. In an effort to conserve and add to the food supplies, a garden was established in a portion of the Elk Range. Results for the first season were not very satisfactory, but it is believed that hereafter substantial improvements can be made.

Boating.—The boating season for 1917 was the first full season for the new dock, and the result,—very largely due to this improvement,—was entirely satisfactory. The net profit was considerably more than double that of the previous season, which was, however, seriously interfered with by delay in constructing the new dock.

In spite of the fact that expenditures in all kinds of recreation were somewhat curtailed by the unusual conditions that prevailed, this particular branch of the privileges experienced the best season in its history. On the whole, the result was a most convincing argument on the necessity and desirability of maintaining a high standard of equipment and the greatest efficiency in operation.

It was necessary to add two carloads of new steel boats to our equipment, in order to replace old ones that had to be discarded. Our experience had shown us some weak points in the construction and design of the boats adopted as our standard, and by placing our orders well in advance for spring delivery, so that the boats could be made up during the winter, we were able to have some special features included that will add very materially to their usefulness. Our first steel boats have now been in use ten years, and it will be necessary to add at least a carload of new boats each season to take the place of those discarded.

Boat House Restaurant.—While there was a small falling off in the gross business at the Boat House Restaurant we were able by careful economy and a change in the operating plan for the winter months to make a better showing than in 1916. It was decided to close the main dining room between November 1 and April 1. This permits continuous operating of the lunch room with a light refreshment service from 9 to 5:30 daily, and dispenses with the services of a chef for the winter.

Soda Water.—A very substantial increase was made over last year in gross receipts from this source, but the increase in cost of materials more than kept pace with it so the net results were not as good as we hoped they would be. There is perhaps no other branch of the privileges more seriously affected by the present conditions than the soda and ice cream business. Their immediate future is so uncertain as to make it difficult to make plans for the coming season. The shortage of sugar very probably may cause the Government to place serious restrictions upon its use for these purposes.

One very substantial and much needed improvement from which we had the benefit in 1917, was the putting in of an excellent concrete floor in the Shelter Pavilion. The floor drains to the catch basins permit its being quickly and thoroughly cleaned, and add materially to the sanitary control of this stand. We took advantage of the opportunity given us by the dismantling of this stand to replace the old style soda fountain with a modest priced counter service fountain, making a plain but substantial outfit.

While there probably is no prospect of relief at the present time as regards the condition of the soda pavilion and fountain in front of the Reptile House, the fact should not be overlooked that an entirely new structure, with a new fountain, must be provided in the very near future. Some repair work will have to be done to get through the coming season.

Guide Book.—The American Eagle edition of the Guide Book was placed on sale on August 1, just in time to prevent a break in the supply, although the last edition went more rapidly in the early months of the season than had been anticipated.

There was no change in the standard of quality set for the Guide Book, though the profits from its sale were materially reduced by advances in the cost of paper stock and other items.

A departure was made from the usual practice by using a color reproduction of a fine picture of an American eagle for the cover, with red, white and blue border. Before the close of the year the new edition had been reduced by nearly eight thousand copies. The Guide Book has now run into seventeen editions, with a total issue of more than a quarter of a million copies.

Souvenir Books, Postal Cards and Miscellaneous Publications.—An important item under this heading during the year was the new issue of souvenir postal cards. A number of rather unattractive subjects in the old series, including some rather unimportant buildings, were dropped out. Twelve new plates, made from especially striking photographs, were added to bring the series up to seventy-five subjects, permitting three sets of twenty-five cards each. These changes, with the advance in the cost of stock, added considerably to the cost of each set, but was more than offset in their appearance as increased sales indicate. The issue ran to nearly a million cards.

Gate Receipts.—The practice that has prevailed for several years of placing the gate receipts to the credit of the Improvement and Repair Account and using them for carrying on urgent repair work that could not be provided for from the funds for Maintenance was discontinued. Only \$2,000 were appropriated out of 1917 gate receipts for the Improvement and Repair Account and the balance was placed to the credit of the Animal Fund, as usual. The amount collected for admissions at the entrance showed a substantial increase over 1916.

Riding Animals.—There was a decided improvement in the business of this division of the privileges over the receipts for last year. The gross results were in excess of the normal figures that prevailed for several seasons just prior to 1916. There was some delay in getting the riding elephant started in the spring, which was compensated in part by excellent receipts late in the season.

GROUND IMPROVEMENT AND MAINTENANCE WORK OF THE DEPARTMENT OF FORESTRY AND CONSTRUCTION.

Hermann W. Merkel, Chief Constructor and Forester;

E. H. Costain, Assistant Forester.

Elephant's Door.—The only work done from this fund was in the Elephant House, where a partition was cut through and



From a photograph by Elvira R. Sanborn

INTERIOR OF THE SMALL MAMMAL HOUSE

The picture shows the new cages on the west side of building. A description of the work is given in this Report.

a very heavy sliding door of steel was installed in order that the male African elephant could be shifted from one stall to another, and to avoid the necessity of the keepers entering a cage with such a powerful and mischievous animal.

The destructiveness, strength, and cunning of the animal, necessitated careful planning. A great mass of steel had to be used in this door, approximately 4,000 pounds, and yet it can be opened and closed upon its steel roller-bearing wheels by one man. So far it has withstood all of the assaults of the elephant.

IMPROVEMENT AND REPAIR FUND.

Small Mammal House.—The most important item of work performed at the expense of this fund was the rebuilding of the large interior cages along the east side of the Small Mammal House. This entire series of cages, eighteen in number, were built anew with concrete and composition floors, steel partitions, steel and glass roofs and electrically welded wire fronts. The old metal gutters were removed, and new ones of steel and concrete were substituted. This completes the rebuilding of the interior cages of this house, which has been going on for two years, and now the finished work presents a greatly improved appearance.

Great care was taken in the design to make every detail of the steel work as simple as possible, and to leave no corners or crevices to accumulate rust and dirt. I firmly believe that better cages than these cannot be built. The cost of this item to the Improvement and Repair Fund was \$1,500; a portion of the work was done by our Maintenance Force.

New Hippo Tank.—At the Elephant House, a new and larger tank, six feet by fourteen and one-half feet, was built for the pygmy hippopotami, because the animals had become entirely too large for the old tank. The new tank has a depth for 36 inches of water, it is connected with the sewer, and is supplied with internal heating facilities. The railing and heating coils were moved back in order to accommodate the installation, and a new gate was cut in the steel work of the hippopotamus stall.

Large Shelter Pavilion.—In the Shelter Pavilion the wooden floors and beams were removed, and a concrete floor upon ash fill was substituted. Advantage was taken of that opportunity

to relay the tile drains from the Wild-Fowl Pond that run underneath this pavilion, and to build a small cellar under the refreshment stall at the south end of the building. This new floor, which cost \$850, is a great improvement, being more sightly and also more sanitary than the old wood floor.

Storage Shed.—The beams and other woodwork removed from the Shelter Pavilion were used in the completion of the new Storage Shed, situated north of and parallel with the Workshops Building. This storage house, used for lumber, etc., makes a very valuable adjunct to our plant.

A heating system was installed in the new Garage.

Important repairs were made on the side walls of the Sea-Lion Pool, portions of which had become disintegrated because of the poor quality of concrete supplied by the contractors.

At the Tea House, the steps were partially rebuilt.

Walk repairs were strictly limited to those places where they were most urgently needed.

Pheasant Cages.—Five steel pheasant cages, covering an area of 2,850 square feet, which were donated by Col. Anthony R. Kuser, were taken down at Bernardsville, and moved to the Park. Two of them, after being slightly remodeled, were set up north of the Pheasants' Aviary upon a concrete foundation, and supplied with pavement and drainage.

New Railing.—A new railing eight hundred feet long was erected on the west side of the Boston Road, between the Buffalo and Boston Road entrances, to replace the old rustic railing that had become dilapidated and dangerous.

Flag Poles.—Two large flag-poles were erected; one at Baird Court, just south of the Italian Garden, and the other one on the hill near the Rocking Stone.

MAINTENANCE WORK.

Repairs.—In addition to the construction work mentioned, the usual amount of repairs and replacements to buildings, from cellars to roofs, was accomplished, involving work by men in all of the building trades. Many fences, also, were repaired.

Food Crops.—Extensive new operations in the raising of food supplies for the animals were carried out. Owing to the high cost of all kinds of food for animals, it was determined to use all the space that could be spared for the cultivation of crops. The major portion of the Elk Range, part of the Wild Horse Range, the field formerly known as the ball ground, and increased areas at the Nursery were planted and kept under intensive cultivation throughout the season. It is very gratifying to be able to report that very good results were obtained, in spite of the fact that new sod ground had to be used, that the innumerable wild squirrels and rabbits of the Park committed serious depredations, and that the season was very unfavorable.

We raised during the year the following products:

Vegetables.

Mangels	39 tons
Carrots	2 tons
Carrots	538 bunches
Beets	634 bunches
Cabbage	2,000 heads
Lettuce	2,000 heads
Potatoes	87 barrels
Ruta Baga Turnips	3 tons
Ear Corn	12 bushels
Green Corn Stalks	121 loads
Sunflower Seed	19 bushels

Animals.

Pigs	31
Guinea Pigs	220
Rabbits	1,332
Rats	1,254
Chickens	2,301
Eggs	23,298

This was accomplished without increasing the force, by reducing non-essential work to the limit, and obtaining a certain amount of volunteer work from various employees. The forestry force and the park cleaners, often augmented the force usually employed at this work, without too seriously neglecting their own. Only the most necessary work was undertaken in the pruning and trimming of trees adjacent to walks, roads, or other places where visitors or installations were endangered. Of course, this neglect can be endured only for a limited time, for



From a photograph by Elmer D. Sanborn

FIELD OF FODDER CORN

Over half of the

otherwise the tree life would suffer seriously. The high winds of early winter have caused great damage to our forests.

Some work, mostly volunteer, was done for the Red Cross Base in the Zoological Park, especially in erecting the working platform in the Lion House, and in making a great number of packing cases for shipments destined for France.

The policing of the grounds was carried on as usual. The arrests and summonses during the year numbered 255, the majority of them being for offenses against the anti-litter ordinance, or against the rule prohibiting the bringing in of intoxicating liquors. Convictions were obtained in nearly all cases, and the fines imposed by the Magistrates amounted to \$477.

In spite of the unusual conditions imposed by the high cost of material and food, the scarcity of labor, the additional work caused by the raising and distribution of a greater amount of food crops the time absorbed by the drilling and other work of the Zoological Park Guards Company of the Home Defense League, and the great reduction in the sum available for improvements and repairs, we have completed the year with the Park and its installations in fairly good condition.

DEPARTMENT OF ENGINEERING.

George M. Beerbower, Civil Engineer.

During the earlier months of the year, preliminary plans were made for a Heads and Horns Museum with studies for the facade, and a design for a bronze tablet containing the names of the persons who subscribed funds for the cost of the building.

Surveys were made of the various locations that were to be considered, and tall scantlings were erected on each, showing the heights and angles of the various forms of the building which were suggested, in order that comparisons might be made to determine which would be the most desirable.

Elevations were taken on the surface, and soundings for rock were made in order that estimates for excavations could be made. Finally it was decided to postpone the construction until after the war.

The record maps of the Park were all brought down to date, to include the improvements made during the year; and

the large colored map was revised to embody the changes made on the easterly side in the boundary line and the abutting property by the Public Service Commission, in the erection of the Interborough Rapid Transit Railroad.

Owing to the suspension of building operations on account of the war, there seemed to be little work for the engineer, and accordingly he accepted temporary employment with the Public Service Commission from the end of the year.

DEPARTMENT OF PHOTOGRAPHY AND PUBLICATION.

Elwin R. Sanborn, Editor and Photographer; Anna Newman, Assistant.

Photography.—The work accomplished in 1917, included a complete series of the kangaroos and wallabies, including the rufous-necked, black-faced, Parry, Woodward kangaroo and the interesting West Australian rat kangaroo; the ring-tailed wallaby, short-tailed wallaby, brush-tailed wallaby, several females of different kangaroo species with young in the pouches. Photographs were made of the phalanger, bandicoot, immature eland and Grant zebra. An extensive series of pictures was made of pheasants, herons, geese, egrets, emus and ostriches, illustrating some of their characteristic habits.

A series of the wild equines was made for Prof. Osborn; and details of the flag raising ceremony, Members' Day, manœuvres of Company A of the Park Guards, and the Red Cross Workers at the Lion House.

A number of negatives were made for a manufacturer and an advertising company, and special prints were made for the *Country Gentleman*, *Literary Digest*, *Cosmopolitan*, *Everybody's Magazine* and other publications.

A lecture, illustrated with slides and motion pictures, was given at the Colony Club; and the same pictures, and a collection of slides—never before exhibited—depicting the life of the gray squirrel, were loaned to the American Museum of Natural History, for use in their lecture hall.

The supply of materials for photographic work still is uncertain and erratic. Nevertheless, there has been satisfactory progress in the production of American substitutes for foreign

chemicals. An urgent request of one of the largest manufacturers of photographic supplies in America,—and perhaps in the world,—for old negative glass, is a striking example of the part that foreign materials have played in American-made products. A good stock of several important chemicals was obtained by this department at the beginning of the war, and by practicing the strictest economy it is yet available.

Bulletin.—Six numbers of the Zoological Society *Bulletin* were issued in 1917. Inasmuch as the Park is the chief source of supply for material for the *Bulletin*, the lack of new accessions has been keenly felt. Mr. Ellis Joseph's collection from Australia, and the collections of the Research Station have come in most opportunely. A large part of the paper stock, purchased early in 1917, is yet available, and will last for several months of this year.

Annual Report.—The report for the past year was issued as heretofore.

Zoopathologica.—Dr. George A. MacCallum contributed the second number of this publication entitled *Some New Forms of Parasitic Worms*.

Tropical Wild Life.—The Society's first year's work at the Station in the tropics of Guiana has been recorded in a handsome octavo volume of over 500 pages. The text is by Mr. Beebe, Mr. Hartley and Mr. Howes and the illustrations, numbering 143, are from photographs by the authors. A careful review of the book will be printed in the May, 1918, number of the *Bulletin*.

Appended is a statement of the work of this department in 1917:

Lantern slides sold	287
Enlargements	29
Transparencies	5
Prints for Albums (Aquarium)	42
Prints for Albums (Park)	267
Prints for Publications	355
Prints sold, and used for miscellaneous purposes.....	1,478
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Total.....	2,463

CONCLUSION.

The continuously advancing cost of practically everything used in the maintenance of the Zoological Park is of course a source of continuous anxiety. The effort to produce food in the Park, and to economize to the utmost limits, must be unremitting. At all hazards, however, we must do two things. We must keep our 4,000 living things clean and in good health, and we must prevent the buildings, dens, aviaries and fences of the Park from deteriorating through lack of care. If our walks are not at every point kept fully up to the highest standard of previous years, the public may know that it is because the labor and material has been more seriously needed elsewhere.

During the year 1918, a very serious amount of repair work must be bestowed upon the eastern portion of the roof of the Lion House, and the ceilings underneath.

Respectfully submitted,

WILLIAM T. HORNADAY,
Director.

REPORT OF THE PENSION BOARD

NEW YORK ZOOLOGICAL SOCIETY

ON behalf of the Pension Board of the New York Zoological Society, I beg to report that this board, consisting of Mr. George C. Clark, *Mr. H. Casimir deRham, Dr. Lewis R. Morris, Mr. Percy R. Pyne, Mr. Wm. B. Osgood Field, Dr. Charles H. Townsend, Mr. H. R. Mitchell, Mr. R. L. Ditmars, and Mr. H. W. Merkel, as named by the Executive Committee, has held its meetings as heretofore in the offices of Mr. George C. Clark on the first Wednesday of every month when there was any business to transact that could not be taken care of by the Secretary or the Membership Committee.

No pensions were granted during the year. Two applications were received from employees of the Aquarium, one of whom, John Smith, died before the Board could act upon his application, and the second, that of Michael L. Lawrence, is still pending.

During the year, seventeen members were lost through death or resignations, relieving the fund of nearly 110 years of accumulated services, as the following table will show:

	Term of Service,			Refund.
	Yrs.	Mos.	Days	
George Campbell, resigned	3	6	24	\$ 51.50
Richard Danz, died	6	10	0	40.10
Richard Deckert, resigned	4	7	23	39.25
Charles Dennin, resigned	3	3	1	21.25
Frank Doyle, resigned	0	4	0	3.60
William Flood, resigned	4	4	23	44.94
Frank Heeb, resigned	0	4	0	3.60
Theodore Keifer, resigned	4	0	28	49.50
Frank McCarron, resigned	10	4	24	45.50
Harrison Mercer, resigned	6	1	19	44.10
James Quinlan, resigned	12	1	8	36.30

*Deceased.

Edward Reuter, resigned	1	8	18	16.85
Hedwig Sindermann, resigned	0	3	0	1.60
John Smith, died	14	2	0	41.07
Patrick Teevan, resigned	18	2	0	47.07
Magda von Boeckman, resigned	1	2	8	9.10
Arthur H. Webb, resigned	18	0	28	59.00
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Total	109	7	24	\$554.33

The large number of resignations is unquestionably due to the great advance in wages and salaries in all lines of industry, while those of the Zoological Park and Aquarium were increased only 10 per cent, through the bonus given by the Zoological Society. This bonus, being a temporary matter, was not assessed by the Board.

Eleven new members were acquired during the year, after having been duly certified by the Directors of either the Aquarium or Zoological Park, and examined by the physician of the Board, Dr. Gilbert J. Van der Smissen.

The net increase of the accumulated fund during the year was \$11,420.10, of which \$1,241.53 was derived from interest on investments. During the year the Pension Board invested \$10,925 in bonds, earning slightly over 4 per cent; \$5,000 of this being in Second Liberty Loan Bonds. In addition to this there was at the close of the year an uninvested balance of \$3,411.96. The total amount available for pensions at the end of 1917 is \$37,625.71, with three applications for pension pending.

It is with great regret that the Board reports the loss of its valued member, Mr. H. Casimir deRham. The following resolution was adopted and incorporated in the minutes of the Board: Approved February 4, 1918.

RESOLVED, That the Pension Board of the New York Zoological Society hereby expresses its deep regret at the loss of its valued member, Mr. H. Casimir deRham, whose valuable advice and faithful services have been freely given as a member of this Board, ever since its creation.

The Pension Board feels its loss very keenly, and offers to the members of Mr. deRham's family its most sincere sympathy in their bereavement.

Respectfully submitted,

HERMANN W. MERKEL,
Secretary, Pension Board.

GEORGE C. CLARK,
Chairman, Pension Board.

TROPICAL RESEARCH STATION

Bartica District, British Guiana.

SECOND ANNUAL REPORT, FOR THE YEAR 1917.

William Beebe, Directing Curator; G. Inness Hartley, Research Associate; John Tee Van, Assistant; Isabel Cooper, Artist.

OWING to war service it was thought impossible to accomplish any work during the present year at the Research Station of the Zoological Society in British Guiana. But during recovery from an airplane accident, I made a short expedition to Guiana, with Mr. Tee Van as assistant; Isabel Cooper, artist, and a party of Americans interested in this British Colony and the work of the Station. My purpose was to make certain that the year's storage had not injured the instruments, books and other equipment of the laboratory, and to recreate the more perishable paraphernalia. This was successfully accomplished, and, in addition, the month of September was spent in intensive work. The second-growth about Kalacoon had been cut and burned for rubber planting, and for this and other reasons it was deemed advisable to move the entire outfit of the station directly across the river to the Penal Settlement, where the Government, through the kind offices of Messrs. Frère and Rolleston, placed a large building at my disposal, for use during the continuance of the war. This we occupied at once and for the succeeding month concentrated on the jungle which began within a hundred yards of our new home.

Our work dealt with the specimens which, from the first day, began to accumulate, and with certain unfinished researches begun last year. Especial attention was given to birds and insects. The number of the former known to inhabit Bartica District was increased from three hundred and fifty-one to over four hundred. This was achieved through three sources; actual specimens taken this year, identification of uncertain species secured last year, and through published records. Many inter-



From photograph by Paul G. Hores

JUNGLE ON THE MAZARUNI, SHOWING HEIGHT OF GIANT MORA

esting models and mimics among insects were taken, with full notes, and an interesting series of paintings begun, depicting the extremes of color change in lizards. Remarkable success was attained in this work by the use of chloroform, the reptiles exhibiting radical changes of color and pattern at a certain stage of anaesthetic relaxation. One of the most valuable acquisitions was a set of ninety paintings and sketches of living zoological subjects, made by Miss Cooper and Mr. Tee Van, both of whom volunteered their services for this purpose.

Several thousand specimens, ranging from mammals to insects, were collected and brought back, eighty-five of them being alive. These specimens were as follows:

800 Arachnida	20 Amphibians
3,880 Insects	51 Reptiles (6 alive)
30 Fish (all alive)	98 Birds (42 alive)
7 Mammals (3 alive)	

Among the most important and interesting additions to the collection of the Zoological Park were a young tapir in the striped pelage, an Imperial Amazon parrot, (*Amazona imperialis*), and a silky ant-eater. (*Cyclotes didactylus*), the latter brought north for the first time to any American collection of living animals. A black-throated cardinal, (*Paroaria jugularis*), was new to our series of these handsome birds. Four toucans, a hawk-headed parrot, (*Deropterus accipitrinus accipitrinus*), a spotted cavy and numerous small birds completed the shipment.

In addition to the work at the Guiana Station, collections were made on nine West India Islands, during stops of the steamer.

During the year 1917 the following articles appeared in connection with the Tropical Research Station:

A Naturalists' Tropical Laboratory, by Theodore Roosevelt, *Scribners*, January.

The Pomeroun Trail, by William Beebe, *Atlantic Monthly*, January.

A Hunt for Hoatzins, by William Beebe, *Atlantic Monthly*, February.

With Army Ants "Somewhere" in the Jungle, by William Beebe, *Atlantic Monthly*, April.



From a photograph by Elsie R. Sanborn

MURINE OPOSSUM FROM SOUTH AMERICA

A marked feature of this little animal, which is not as large as our common rat, is the long prehensile tail. It is nearly twice the body length.

A Wilderness Laboratory, by William Beebe, *Atlantic Monthly*, May.

Jungle Night, by William Beebe, *Atlantic Monthly*, July.

Tropical Wild Life, by Beebe, Hartley and Howes, published by the N. Y. Zoological Society, octavo, pp I-XX, 1-504.

It is a matter for congratulation that the first volume of researches has appeared so soon after the actual work. The usual delay of several years intervening between such researches and their publication, has little excuse. Material for a second volume is rapidly accumulating, and it is hoped that conditions will soon permit of a renewal of active field and laboratory research on a larger scale than before.

WILLIAM BEEBE.



Photo is photograph by Eliza R. Sanborn

NEW ROCKWORK IN ONE OF THE ENLARGED TANKS

The morays approve of this coral reef, three species taking possession of the crevices provided for them.

REPORT OF THE
DIRECTOR OF THE AQUARIUM
TO THE BOARD OF MANAGERS.

THE year 1917 is the fifteenth in the history of the Aquarium under the management of the Zoological Society, and the twentieth since its inception.

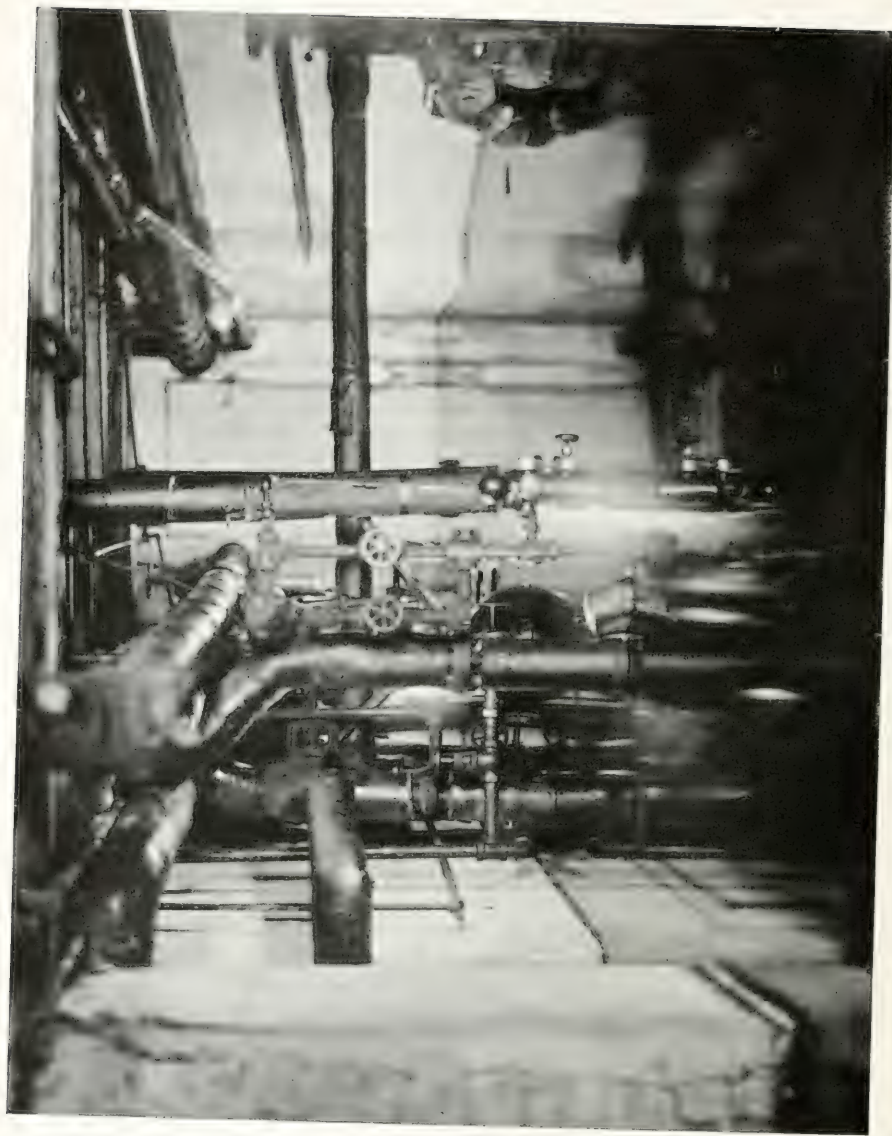
While the institution has always had the patronage of the people to a degree quite unusual among public museums, it has not received official support commensurate with its popularity, its actual field of work and its possibilities for greater usefulness.

The unprepossessing external appearance which the Aquarium presents to the visitor is due to the fact that it is housed in an old and inadequately cared for building. It remains the same unsightly structure that it has been for the past one hundred years. Its interior aspect is better, and the structural defects of the building are largely overlooked in the presence of its admirable and extensive living exhibits.

The Aquarium must, by reason of its great interest for the public, be classed as a public museum, and its staff has always been under the necessity of performing duties similar to those of curators in such museums. The fact cannot be overlooked that its work has hitherto been carried on under such serious disadvantages as lack of exhibition and office space and facilities for collecting and caring for its exhibits.

The space devoted to exhibits reached its full capacity years ago, so that reasonable growth of its collections has been altogether impossible.

The inadequacy of the building to the work required of the Aquarium has not been due to lack of well prepared plans for its improvement. The needs of the Aquarium have been recog-



Photographed by L. L. Monahan

FIRE ROOM, NEW YORK AQUARIUM FLOODED AT HIGH TIDE
The return pump is entirely submerged. Its position is indicated by the float.



Photographed by E. L. Muehring

FIRE ROOM, NEW YORK AQUARIUM FLOODED AT HIGH TIDE

The front of the iron wheelbarrow has been elevated to allow the water to flow off the coal.

nized and various plans for its betterment have been submitted and found approval—but action has so far not been secured.

During the fifteen years that the Aquarium has been under the management of the Zoological Society, the total amount secured from the City for various improvements of the building has been \$76,000, an average of \$5,067 per annum—not a large sum for an institution necessarily requiring a large amount of machinery and piping. Most of the improvements made during this period are not apparent to visitors, being largely those connected with the different water systems and located out of sight of the public. The machinery has been gradually renewed and as far as possible modernized. The mechanical equipment is at present in sound working condition, so that the maintenance of the living aquatic exhibits is on a safe basis. Some of the difficulties connected with the administration of the Aquarium are very serious.

During the new moon tides of each month, wet coal has to be shovelled into the furnaces by firemen wearing rubber boots and standing knee deep in water. The sea has always invaded the fireroom floor and the underground pipe galleries during new moon tides. This almost unbearable condition has been tolerated under the constant protest of the Director. The Aquarium needs to have its mechanical department removed to the unused basement at the front of the building, where it can be protected during high tides. The space vacated in the rear of the building should be made available for exhibits, and advantage should be taken of the change to create additional office and storage space by the addition of a third story.

While the tides are high, one of the pumps becomes entirely submerged, so that it ceases to operate, and steam heat is cut off the entire building until the tide falls, a serious matter in cold weather. The coal storage space is so limited that the Aquarium has always had to depend on coal delivered twice a week. This winter it is on the precarious basis of daily coal deliveries. If these stop for forty-eight hours, the Aquarium will lose its collections and be put out of business until next summer.

The following letter is from the Architect of the Park Department. Mr. Kraus saw the fireroom when it was flooded on October 24, 1917:

CITY OF NEW YORK—DEPARTMENT OF PARKS

Boroughs of Manhattan and Richmond

Municipal Building, 10th Floor

CABOT WARD, *Commissioner*.

October 24th, 1917.

Mr. C. H. Townsend, Director,

New York Aquarium, New York.

DEAR SIR:

I visited the boiler room in the Aquarium this afternoon to see the conditions there during a high tide.

I entirely agree with you that the present conditions are intolerable. The boiler room is cramped and the coal storage space very limited.

Having seen the fireman in rubber boots shovelling wet coal into the furnaces, with the ash pits, at the same time, half filled with water, I must congratulate you on having been able to successfully operate your mechanical department all these years with such handicaps.

You can count on me for such assistance as I can render in your endeavors to convince the City authorities of the urgent need of a change in the location of the machinery department as described in your recent report.

Very truly yours,

(SIGNED) JAROS KRAUS, *Architect*.

The Aquarium had 1,595,118 visitors during the past year, and this attendance was lower than usual. It would seem that a museum patronized by the public to such an extent, should be put on a safe and sanitary basis without further argument.

IMPROVEMENTS FROM THE MAINTENANCE FUND.

Enlarged Exhibition Tanks.—The work of enlarging exhibition tanks on the ground floor, which was begun in 1916, was continued by the Aquarium force as opportunity afforded. Twenty-two of the glass-fronted tanks have now been enlarged. In eight cases, adjoining tanks were combined in pairs, making in all fourteen tanks, having a depth back from the glass of twelve feet. Those combined in pairs have, of course, twice the width and swimming space of the single tanks which were merely extended backward.

The enlargement of exhibition tanks is now about completed, as any extension of the work would involve alterations in the heavy piping system too serious to be practicable. The increased capacity of the enlarged tanks naturally resulted in lowering the water level in the underground reservoir adjacent to the Aquarium and holding 100,000 gallons of pure sea water. This made necessary the addition of several thousand gallons to the supply of stored water, which was brought by tank boat from the open ocean.

Most of the enlarged tanks have already been lined in part with rockwork, and this treatment will be resumed when a new supply of material can be obtained.

Another improvement effected by the employees under the direction of the foreman, was the lowering of six wooden reserve tanks to a level where they are more accessible to the attendants who care for them. Their original high position, with their bottoms two feet above the floor of the service gallery, made them difficult to reach.

A matter of importance connected with the work of enlarging tanks was the locating of several small leaks in the masonry which appear to account for the loss of a considerable amount of water from the reservoir. It is believed that the last of these leaks has been discovered.

Refrigerating Plant.—Aside from the enlargement of certain exhibition tanks, the most important improvement of the year was the removal of the refrigerating engine and condenser from the interior of the building to the top of the wall back of the pump room. Advantage was taken of the change to abandon the bulky tank and coil system, and install a condenser of the modern double-tube type, which requires less space and gives better service. The removal of this machinery became necessary in order to comply with requirements of the Fire Department for the special housing-in of ammonia-using equipment.

Photographs of the room constructed for the refrigerating plant and an interior view are presented herewith. The work of dismantling the plant was done by the Aquarium force. It was housed and installed under the direction of the Park Department, for which work an appropriation of \$1,500 was secured from the City. It was in use during the past summer in its new position, and gave satisfactory service. This water cooling equipment is operated for about six months only—May to November—and its use is to reduce the summer temperature of fresh water flowing to tanks containing salmon, trout and other northern fishes, including eggs and young fry in the fish hatchery.

The space made vacant by the removal of the refrigerating plant has already been utilized by the enlargement of two exhibition tanks.

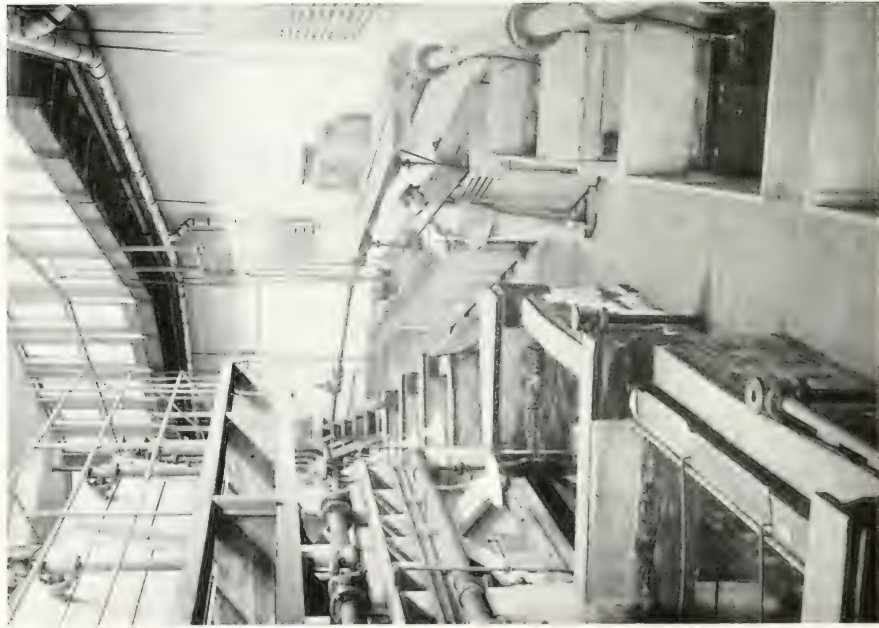
Storage Space for Coal.—Early in the summer the Director acceded to the wish of the Commissioner of Parks, to remove the unsightly shed adjacent to the Aquarium, which had long been used for storing a small reserve of coal. The Park Department secured an appropriation of \$650 for the enlargement of the coal space within the building, but as this was not immediately available the Aquarium could not be safeguarded in its winter coal supply. It was, in fact, reduced to the necessity of depending upon daily deliveries of coal during a prolonged shortage of fuel, although every possible economy was practiced. By closing the building to visitors from January 18 to 22, inclusive, and on the following Monday, a saving of about fifty per cent in fuel was effected. The living exhibits would probably have been lost had it not been for twenty-five tons' emergency supply long hidden in an underground pipe conduit. The space available for coal is so limited that it can hold under the best conditions not more than four days' supply.

Appropriation for Repairs to Roof.—The roof of the Aquarium, which has long been in bad condition, was examined by the Park Department, and an appropriation of \$3,000 was applied for and secured. A further appropriation of \$375 was secured for the re-surfacing of the exterior walls, which had become greatly discolored.

Exhibits.—The exhibits at the Aquarium are as varied and extensive as at any time in the past. They cannot, in fact, be increased without making radical changes in the building, such as those suggested in the report for last year. By removing the mechanical department from the rear to the basement of the front of the building, much space could be created for new and attractive exhibits and these could be installed in a manner superior to anything yet attempted.

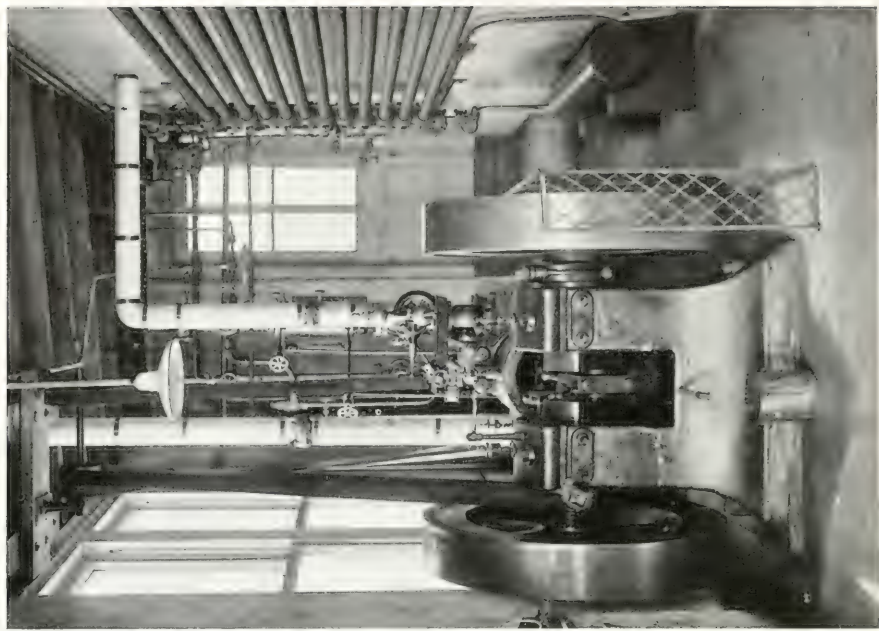
The total number of specimens now in the Aquarium is 6,049, and the number of species 186. Of fishes there are 4,611 specimens, representing 137 species; invertebrates 1,255 specimens, and 18 species; amphibians 69 specimens, and 8 species; reptiles 112 specimens, and 21 species; and two mammals—a sea lion and a manatee. The sea lion has lived in the Aquarium ten years and the manatee (*Manatus inunguis*, from the Amazon) a year and a half.

It is a great satisfaction to be able to report a further improvement in the welfare of the living collections of the Aqua-



SERVICE GALLERY, NEW YORK AQUARIUM

The reserve tanks next to the wall are shown lowered to the same



From photographs by Elsie R. Sanborn

NEW QUARTERS FOR THE REFRIGERATING PLANT

Interior view showing the engine and

rium. The installation of a new salt water supply in 1908 improved the conditions for keeping marine forms of life to a remarkable degree. The enlargement of many of the exhibition tanks a year ago has yielded further good results in this respect. The completion of the Catskill Water System by the City has probably benefited the Aquarium, as the fresh-water collections were never in better condition. There has been less trouble from *Saprolegnia* fungus than usual, and this may be due to water, both purer and of lower temperature. No other aquarium maintains such extensive exhibits of aquatic life, and it is doubtful if such exhibits have anywhere been kept with a greater degree of success.

Marine and fresh-water fishes were collected as usual by the Aquarium employees from local waters.

Three collections of tropical fishes were made in Florida during the summer, two of them being in co-operation with the Detroit and Philadelphia aquariums. This arrangement proved to be economical and advantageous, although the number of specimens brought to the New York Aquarium was somewhat less than usual. The work of collecting and transporting the tropical fishes was done by the New York Aquarium force, with its own equipment, the other institutions paying the expenses.

During the summer the Aquarium made a number of exchanges of fishes with the New Jersey Fish Commission. The specimens sent out were chiefly young whitefish from the Aquarium hatchery, and several hundred pearl roach, of which there was a surplus brought in by the Aquarium Collector. In September the Aquarium lent to the New Jersey Commission fifty fresh-water fishes of seven species for exhibition at the Trenton Fair.

The fishes received from New Jersey were numerous large trout from the hatchery at Hackettstown; a collection of 100 fishes from Boonton Reservoir; and finally 150 fishes which had been on exhibition at Trenton. The fishes from Boonton and Trenton were transferred by a motor truck sent from the Aquarium.

The Aquarium received from the New York State Fish Culturist thirteen eels and six muskallunge of large size, together with other fresh-water fishes.

Mr. E. K. Bruce, of Thornburg, Iowa, presented ten fancy Japanese goldfish.

Three specimens of the alligator snapping turtle were received from Louisiana, weighing 70, 87, and 101 pounds respectively. The heaviest of these turtles had a total length of four feet and nine inches.

A blue lobster weighing over thirteen pounds was received in June, but like all of the giant lobsters taken from deep waters, did not live long. Lobsters of bright blue color are very rare, and this specimen, the largest blue lobster known, has been mounted for exhibition.

During the year 2,587 specimens were purchased by the Zoological Society, and 166 were presented. In addition to these, eggs of several species of fishes were received from the U. S. Bureau of Fisheries, which were hatched in the Aquarium and later distributed in public waters.

A complete list of purchases and gifts will be found elsewhere in this report.

Aid to Schools and Teachers.—For many years the Aquarium has supplied small forms of marine life to teachers for stocking aquaria in the public schools. During the year such collections were furnished to forty-one institutions. The number of classes visiting the Aquarium with their teachers was 108, representing 4,326 pupils.

Paintings Showing the Color Changes of Fishes.—At the request of the Director, the Executive Committee provided a fund of \$300 for the painting of certain tropical fishes conspicuous for their sudden changes in color and markings. Most tropical fishes have the capacity of making changes in color instantaneously, but little was known of such changes until the records of observations made at the Aquarium were published by the New York Zoological Society in 1909. As mere descriptions were inadequate, and photographs were difficult to make and lacked color, the making of paintings was desirable in order to do justice to the subject. The twenty paintings, showing as many species, each in the various phases of color it is capable of assuming, should, when published by the Society, constitute an unusually interesting contribution to the natural history of

fishes. Much of the descriptive matter has already been prepared by the Director, who constantly supervised the work of the artists.

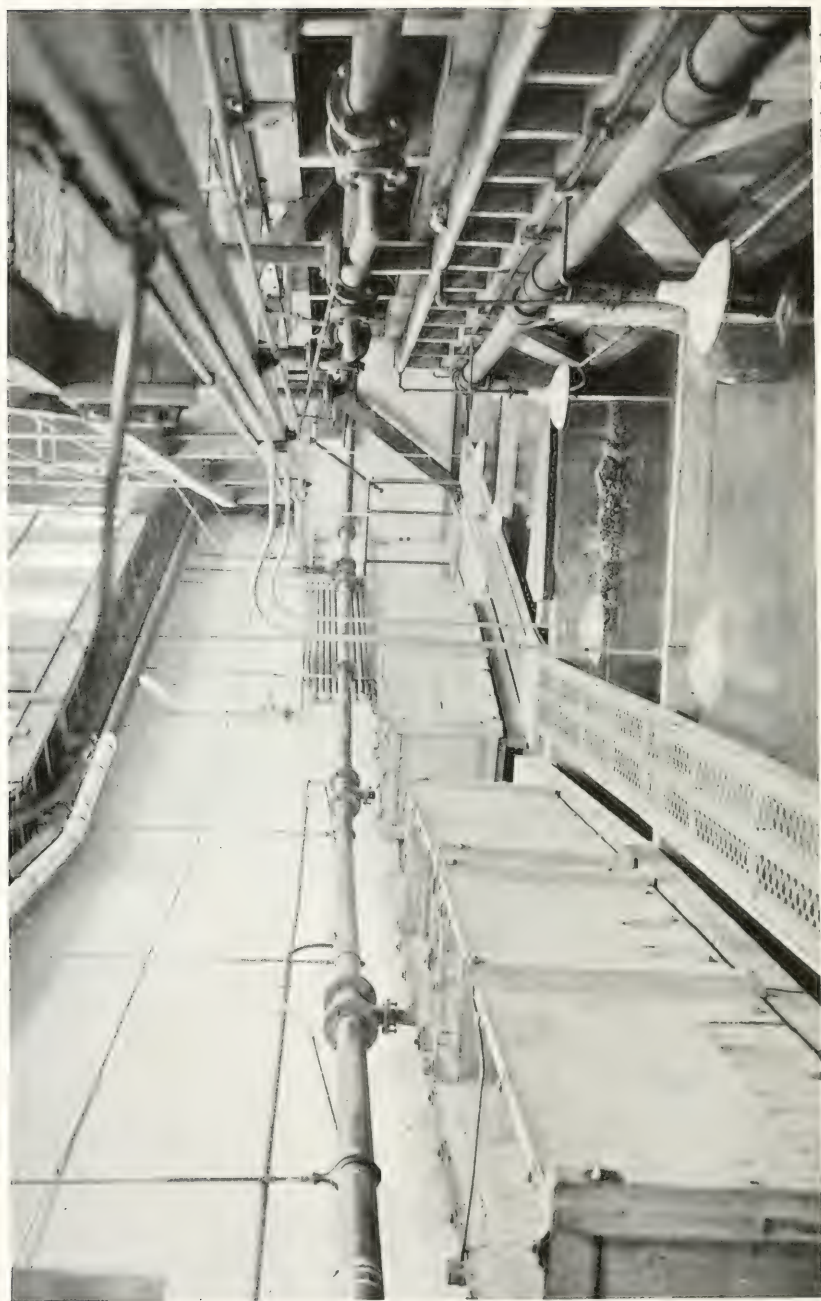
Information Circulars.—Three circulars were added to the list of "Information Circulars" published by the Aquarium. These three- to six-page leaflets are useful in handling the correspondence of the institution, as they relate to subjects about which there is frequent inquiry. Those issued were: *The Care of Salamanders and Frogs in Captivity*, by Ida M. Mellen; *The Care of Small Salt Water Aquaria*, by Ida M. Mellen; and *The Administration of the Public Aquarium*, by C. H. Townsend.

Annual Reception.—The annual reception at the Aquarium on April 30, to members of the Zoological Society, was attended by 318 persons. The building was specially illuminated, and was decorated with plants loaned by the Park Department and the Zoological Park. Music and refreshments were provided and there were interesting motion pictures of aquatic life. The enlarged tanks, with their greatly increased living exhibits, attracted much favorable comment.

Reception to Museums' Association.—On the evening of May 22, the American Association of Museums, then meeting in New York, was invited to the Aquarium. Nearly one hundred persons were present. A part of the evening was devoted to an address by the Director on The Administration of the Public Aquarium, which has since been published as one of the Information Circulars of the New York Aquarium (No. 6). This Association has over three hundred members, representing one hundred and fifty museums in the United States and Canada.

Attendance.—Soon after the commencement of the war in Europe, the attendance at the Aquarium began to decline, and in 1915 the number of visitors was 1,538,831. In 1916 the attendance was still less, being 1,499,667. The decline was attributed to the decrease in steamship travel, both immigrant and tourist, between this country and Europe. During the past year the number of visitors to the Aquarium increased by 95,451 as compared with 1916.

The total attendance for 1917 was 1,595,118, a daily average of 4,370 persons.



From a photograph by Elmer R. Stubbins

VIEW IN THE SERVICE GALLERY

At left, a large, dark, cylindrical object, likely a propeller or a large pipe, is visible. The image shows a complex network of pipes, valves, and structural elements within the ship's hull. The perspective is looking down a corridor or gallery, with various mechanical components and structural supports visible on both sides.

ATTENDANCE AT THE AQUARIUM BY MONTHS, 1917.

January visitors.....	78,949	Daily average	2,546
February "	76,648	" "	2,773
March "	98,790	" "	3,186
April "	142,338	" "	4,744
May "	158,286	" "	5,106
June "	186,938	" "	6,231
July "	196,252	" "	6,330
August "	220,212	" "	7,103
September "	177,369	" "	5,912
October "	120,462	" "	3,885
November "	88,570	" "	2,952
December "	49,304	" "	1,590
Total "	1,595,118	" "	4,370

Density Record.—The daily observations on the condition of the water of the Harbor, commenced at the Aquarium in 1903, have been continued practically without interruption. These unique records, published annually in our report, have been useful not only to the Aquarium, but of important public service on many occasions.

Record of monthly mean temperatures and specific gravities at the New York Aquarium during the year 1917 (from daily observations made by Mr. W. I. DeNyse).*

Harbor Water—Temperature and Density.

	<i>Temperature.</i>	<i>Specific Gravity.</i>
January	42°	1.014
February	39°	1.015
March	39°	1.013
April	43°	1.009
May	48°	1.011
June	57°	1.011
July	63°	1.012
August	69°	1.013
September	68°	1.015
October	61°	1.015
November	53°	1.013
December	44°	1.014

*Density observations were made with samples of water brought to a temperature of 60° Fahr.

Employees.—It is a pleasure to commend the work of the Aquarium employees. In addition to their regular duties, they have done most of the work on the exhibition tanks which have been enlarged.

Two persons, the clerk and the office assistant, are now in military service. Both of these were voluntary enlistments. Their positions have not been refilled, as the office work has been apportioned among other members of the staff. The funds thus saved contributed much toward enabling the Aquarium to finish the year without a deficit, which, owing to the increased cost of fuel, would have been inevitable.

The work of collecting practically all of the living exhibits of the Aquarium devolves upon the employees, and this duty often necessitates their absence when they are much needed in the building. All aquariums, however, must do their own collecting, as the animal dealer has little to offer in the way of Aquarium exhibits.

Respectfully submitted,

CHARLES HASKINS TOWNSEND, *Director.*

REPORT OF THE PROSECTOR

TO THE BOARD OF MANAGERS.

I BEG to submit the following report of the operations of the Prosector's Department for the year 1917:

During the year 119 specimens were received from the Society's collections, distributed as follows:

Primates	30	Edentates	1
Carnivores	19	Birds	23
Ungulates	9	Reptiles	17
Rodents	10	Amphibians	2
Marsupials	8		
		Total	119

The routine work of the department has been carried on as usual, and a number of important preparations have been added to the permanent collections.

The receipt of three specimens of the remarkable Australian lizard, *Trachysaurus rugosus*, made it possible to investigate the structure of this form in detail, with a number of interesting results, among which the bilateral caecal pouch is important as furnishing the first prototype found in a reptile of the avian condition.

The material received during the year has been of great value in the continuation of the Department's investigation of the morphology and phylogeny of the mammalian respiratory tract. Notable accession came from the Marsupial collection, *Dendrolagus*, *Bettongia*, *Macropus giganteus* and *robustus*. The lung of the little *Cyclothurus* proved of the utmost interest and significance. In the *Hystricomorphs* and *Mustelidae*, two groups of exceptional importance in the phylogenetic interpretation of the mammalian lung, valuable data were added by the specimens of *Hystrix*, *Erethizan*, and *Galictis*.

Gratifying progress is to be reported from the department of Neuor-anatomy. Professor Tilney's technician, Miss Unger, has completed during the year the task of serially sectioning the brain of the gorilla "Dinah." This invaluable and unique specimen is now, after the taking of the surface records, measurements and photographs, in a complete series of about 1,560 sections, of which every fifth section is mounted with a Weigert stain. Together with the brains of chimpanzee, orang and *Hyllobates*, treated by the same method, this material will furnish the basis for an exhaustive study of the neural architectonics in the Anthropomorpha.

During the year Mr. Camp, from the American Museum of Natural History, used the material received in a study of the Carnivore, Marsupial and Primate myology of the pectoral and pelvic girdles and the extremities.

The receipt of a specimen of *Crypturus cinnamomeus* afforded an opportunity for investigating and assembling the struthious characters of this group.

In spite of the unavoidable reduction in the number and range of the specimens caused by the war, the year has been productive and satisfactory.

Respectfully submitted,

GEORGE S. HUNTINGTON,
Prosector, New York Zoological Society.

Treasurer's Report

FOR THE YEAR ENDING DECEMBER 31, 1917.

RECEIPTS AND EXPENDITURES

OF THE

Income Account

Schedule 1.

Unexpended Balance as of December 31, 1916:		
Available for expenditure during 1917	\$10,928.47	
Received from Sustaining Memberships in advance for 1918	40.00	
<i>Investments:</i>		
\$1,000 New York, Lackawanna & Western Terminal 4% Bonds	3,960.00	\$14,928.47

RECEIPTS.

Annual Dues	18,100.00	
Sustaining Memberships	320.00	
Animal Fund (transfer)	3,904.00	
La Farge & Morris (refund of architect's commissions)	790.94	
Transfer from Endowment Fund Income Account	15,508.56	
Interest on bank balances	1,285.53	
Interest on investments	160.00	40,069.03
		<hr/> \$54,997.50

EXPENDITURES.

Annual and separate reports	\$ 2,607.03
Bulletin	3,782.72
Photographs and slides	1,033.45
Preparation and mailing of circulars	1,977.02
Zoologica	455.99
Cost of distribution of publications	206.30
Expenses, Annual Meeting	841.00
Expenses of receptions	1,246.05
Treasurer's office expenses	1,350.00
General office expenses	4,633.85
Audit of accounts	600.00
Liability insurance	1,082.68
Salary of Secretary	5,000.00
Aquarium expenses	142.55
Office supplies and printing	2,714.18
Aquarium specimens	1,462.62
Heads and Horns (publications and labels)	11.75
Library Fund (transfer)	500.00
Aid to employees	500.00
Pension Fund Income Account	3,665.00
Engineering expenses	175.00
Zoopathologica	403.64
<i>Carried forward</i>	<hr/> \$34,390.83

<i>Brought forward</i>	\$31,390.83	
Employees co-operative store	1,228.57	
Salary Bonus Fund (transfer)	117.79	
Zoological Park Guard equipment	1,129.18	
Miscellaneous expenses	4,206.39	41,072.76
<hr/>		
Unexpended balance as of December 31, 1917:		
Available for expenditure during 1918	\$10,954.74	
<i>Investments:</i>		
\$3,000 New York, Lackawanna & Western Terminal		
4% Bonds (one bond sold during year for \$990)	2,970.00	13,924.74
		<hr/>
		\$54,997.50

H. R. MITCHELL,
Chief Clerk.
 January 1, 1918.

PERCY R. PYNE,
Treasurer.

Maintenance Fund ZOOLOGICAL PARK.

Schedule 2.

RECEIPTS.

Received from the City on account of Park Maintenance		
Appropriation of \$199,560.00 for the year	\$178,394.58	
Due from the City on account of Park Maintenance		
Appropriation	21,165.42	\$199,560.00

EXPENDITURES.

Maintenance of buildings and care of collections	\$57,088.20
Maintenance and care of grounds	51,097.38
General administration	19,126.79
Food for animals	37,373.32
Fuel	11,714.06
Uniforms and miscellaneous wearing apparel	2,336.20
Lumber	2,045.52
Motor Vehicles and equipment	1,609.63
Paints and oils	1,249.93
Electric service	1,160.18
Miscellaneous supplies	1,075.38
Plumbing repairs	1,020.00
Plumbing materials	986.20
Miscellaneous materials	849.92
Hire of horses and vehicles	847.50
Office supplies	835.07
Furnace repairs and replacements	825.17
Janitors' supplies	757.22
Telephone service	694.16
Sand, cement and brick	609.49
Miscellaneous equipment	577.96
Stationery and printing	566.90
Bolts, nails and hardware	535.89

Carried forward \$194,982.07

<i>Brought forward</i>	\$194,982.07	
Fuel oil and gasoline	528.85	
Janitors' equipment	493.27	
Steel and iron	439.03	
Office furniture and fixtures	275.75	
Expressage and deliveries	261.85	
Tools and machinery	203.09	
Miscellaneous repairs	197.30	
Electrical materials	187.91	
Lubricating oils	186.98	
Sanitary service	168.00	
Nursery stock and seeds	166.15	
Medical attendance, employees	166.00	
Glaziers supplies	151.56	
Apparatus and machinery repairs	147.65	
Drugs and medicines	121.23	
Rubber hose	113.80	
Fencing and netting	109.77	
Ice	101.13	
Disinfectants	97.10	
Painting labels	94.00	
Nursery supplies	67.44	
Park baskets	84.00	
Gas Service	66.24	
Painters' equipment	53.21	
Miscellaneous expenses	19.00	
Medical and surgical supplies	18.85	
Mats and floor coverings	17.10	
Awnings and shades	17.00	
Telegraph, cable and messenger service	15.82	
Harness and vehicle repairs	6.15	
Surgical instruments and appliances	2.70	\$199,560.00

H. R. MITCHELL,
Chief Clerk.
 January 16, 1918.

PERCY R. PYNE,
Treasurer.

Ground Improvement Fund

Schedule 3.

Unexpended balance as of December 31, 1916:

Erection and Equipment of Power Plant and Work Shops	\$	91.19	
Construction of Fences and Other Permanent Im- provements		3.90	
Erection of New Zebra House	10.00	\$	105.09

Balances rescinded by the City:

Erection and Equipment of Power Plant and Work Shops	\$	91.19	
Construction of Fences and Other Permanent Im- provements		3.90	
Erection of New Zebra House	10.00	\$	105.09

1915 GROUND IMPROVEMENT ACCOUNTS.

Construction of Hospital Building:

Balance available, December 31, 1916	\$ 2,517.68
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EXPENDITURES.

Architects commissions	\$ 960.92
Transferred to Reconstruction of Cages in Elephant House	1,400.00 \$ 2,360.92
Balance available, December 31, 1917	156.76
	\$ 2,517.68

Construction of Sliding Door and Reinforcing Elephant House Fence:

Balance available, December 31, 1916	\$.14
Balance rescinded by the City	\$.14

New Paint and Oil Storage Shed:

Balance available, December 31, 1916	\$ 2.28
Balance rescinded by the City	\$ 2.28

Poultry Breeding House:

Balance available, December 31, 1916	\$.63
Balance rescinded by the City	\$.63

Paving Bottom of Duck Pond:

Balance available, December 31, 1916	\$ 34.04
Balance rescinded by the City	\$ 34.04

Reconstruction of Cages in Elephant House:

Transferred from Construction of Hospital Building	\$ 1,400.00
--	-------------

EXPENDITURES.

By the Zoological Society through Park Department.....	\$ 578.75
Through Park Department	577.00 \$ 1,155.75
Balance available, December 31, 1917	244.25
	\$ 1,400.00

H. R. MITCHELL,
Chief Clerk.
 January 1, 1918,

PERCY R. PYNE,
Treasurer.

Animal Fund

Schedule 4.

Unexpended balance as of December 31, 1916:

Cash in Bank	\$ 2,852.80	
Cash on hand	100.00	\$ 2,952.80

RECEIPTS.

Special Subscriptions:

Percy R. Pyne	\$1,250.00	
Frederick G. Bourne	1,000.00	
Henry M. Tilford	1,000.00	
George F. Baker	1,000.00	
Mortimer L. Schiff	1,000.00	
Robert S. Brewster	1,000.00	
A. Barton Hepburn	500.00	
Edward S. Harkness	500.00	
Andrew Carnegie	500.00	
Lispenard Stewart	500.00	
Charles F. Dieterich	300.00	
George C. Clark	250.00	
J. P. Morgan	250.00	
William B. Osgood Field	200.00	
Louis J. Boury	200.00	
Miss Katherine DuBois	100.00	
William A. DuBois	100.00	
Newbold Edgar	100.00	
J. Sanford Barnes	100.00	
Samuel P. Avery	100.00	
Mrs. Geo. W. Thacher	100.00	
James Douglas	100.00	
Robert L. Gerry	100.00	
Miscellaneous	530.00	\$10,780.00

South African Expedition (refund) 1,224.90

Improvement and Repair Account (transfer) 88.34

Receipts at Park:

Gate Receipts	\$7,118.90	
Sale of animals	1,724.77	
Checking	23.80	
Miscellaneous	118.65	

Privilege Account, on account of 1917 receipts 10,000.00 18,986.12 31,079.36

\$34,032.16

EXPENDITURES.

Mammals	\$6,549.31	
Birds	7,439.76	
Reptiles	1,198.80	
Insect collection	43.31	15,231.18

Less amount advanced from Income Account for 1916 3,904.00 11,327.18

Express and other charges 2,006.02

Travelling and other expenses 57.40 2,063.42

Carried forward 13,390.60

Brought forward		\$13,390.60
Income Account (transfer)		*3,904.00
Aquarium specimens		174.53
Unexpended balance as of December 31, 1917:		
Cash in bank	16,463.03	
Cash on hand	100.00	16,563.03
		<hr/>
		\$31,032.16

H. R. MITCHELL,
Chief Clerk.
 January 1, 1918.

PERCY R. PYNE,
Treasurer.

*To reimburse Income Account amount advanced in 1916 for purchase of animals.

Stokes Bird Fund

Schedule 5.

Unexpended balance as of December 31, 1916:		
Cash in Bank	\$ 58.54	
Investment: \$5,000 Illinois Central Railway 4% Gold Bonds	5,056.46	\$ 5,115.00

RECEIPTS.

Interest on investment	\$ 200.00
	<hr/>
	\$ 5,315.00

EXPENDITURES.

Unexpended balance as of December 31, 1917:		
Cash in Bank	\$ 258.54	
Investment: \$5,000 Illinois Central Railway 4% Gold Bonds	5,056.46	\$ 5,315.00

H. R. MITCHELL,
Chief Clerk.
 January 1, 1918.

PERCY R. PYNE,
Treasurer.

National Collection of Heads and Horns

Schedule 6.

Unexpended balance as of December 31, 1916	\$ 78.89
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RECEIPTS.

Special Subscriptions:	
John J. Paul	\$ 15.00
	<hr/>
	\$ 93.89

EXPENDITURES.

Express and other charges	\$ 18.12
Unexpended balance as of December 31, 1917	75.77
	<hr/>
	\$ 93.89

H. R. MITCHELL,
Chief Clerk.
 January 1, 1918.

PERCY R. PYNE,
Treasurer.

Library Fund

Schedule 7.

Unexpended balance as of December 31, 1916 \$ 295.29

RECEIPTS.

Income Account (transfer) 500.00

\$795.29

EXPENDITURES.

Subscriptions to periodicals \$ 124.37

Books, pamphlets, etc. 233.12 357.49

Unexpended balance as of December 31, 1917 437.80

\$795.29

H. R. MITCHELL.

Chief Clerk.

January 1, 1918.

PERCY R. PYNE,

Treasurer.

Maintenance Fund

AQUARIUM.

Schedule 8.

RECEIPTS.

Received from the City on account of Aquarium Maintenance Appropriation of \$47,000.00 for the year..... \$38,300.43

Due from the City on account of Aquarium Maintenance Appropriation 8,509.57 \$ 46,810.00

Expended through the Park Department 190.00

Deficit for year 1917, to be paid by the Zoological Society 93.61

\$47,093.61

EXPENDITURES.

Salaries and wages \$32,237.07

Fish food 1,580.85

Fuel supplies 7,330.27

Office supplies 160.93

Laundry, cleaning and disinfecting supplies 92.92

Refrigeration 80.09

General plant supplies 464.41

Office equipment 151.88

Wearing apparel 51.18

General plant equipment 1,320.50

General plant materials 773.64

Repairs 618.72

Lighting 1,461.98

Transportation 269.00

Telephone 149.58

Contingencies 160.59 \$ 46,903.61

Through Park Department:

Balance account alterations in Refrigeration Plant 190.00

\$47,093.61

L. L. MOWBRAY,

Acting Clerk.

January 11, 1918.

PERCY R. PYNE,

Treasurer.

Endowment Fund

Schedule 9.

Funds as of December 31, 1916:

Cash in Bank	\$ 4,512.80	
Investments at cost	347,250.00	\$351,762.80

RECEIPTS.

Endowment Fund:

Estate of Maria DeWitt Jessup	2,500.00
Special Subscription:	
Frank W. Kitching	10,329.16
Patron:	
John A. Roebling	1,000.00
Life Memberships	3,740.00
	\$369,331.96

Investments as of December 31, 1917, at cost:

\$20,000 Westchester Racing Association 5% First Mortgage Bonds	\$20,000.00
3,000 Second Mortgage, Clara N. Gibert and others, 6% over land and buildings, Broadway and 17th Street	3,000.00
5,000 Colorado & Southern 4% Bonds	4,750.00
5,000 Michigan Central R. R. Co. 4% Bonds	4,950.00
10,000 New York City 1957 4% Corporate Stock	9,925.00
10,000 New York City 1957 4% Corporate Stock	9,962.50
20,000 New York City 1958 4% Corporate Stock	19,875.00
10,000 New York City 1958 4% Corporate Stock	9,962.50
13,400 New York City 1965 4½% Corporate Stock	13,651.25
10,000 St. Paul, Minneapolis & Manitoba 4% Bonds	9,800.00
50,000 U. S. Steel Sinking Fund 5% Bonds	51,812.50
50,000 American Telephone & Telegraph 4% Bonds	45,000.00
25,000 Rhode Island Suburban Ry. Co. 4% Bonds	21,250.00
20,000 Chicago & Northwestern Ry. Co. General Mortgage 4% Bonds	19,750.00
20,000 Vandalia Railroad Co. Consolidated Mortgage 4% Bonds	19,400.00
5,000 Missouri & Illinois Bridge & Belt R. R. Co. 1st Mortgage 4% Bonds	5,000.00
10,000 Chicago, Milwaukee & Puget Sound 1st Mortgage 4% Bonds	9,525.00
12,000 Chicago, Milwaukee & Puget Sound 1st Mortgage 4% Bonds	11,250.00
7,000 New York, Lackawanna & Western 4% Terminal Improvement Bonds	6,930.00
20,000 Milwaukee, Sparta & Northwestern 1st Mortgage 4% Bonds	18,900.00
25,000 New York & Westchester Lighting Company General Mortgage 4% Gold Coupon Bonds	19,750.00
1,000 Morris & Essex R. R. 3½% Bond	876.25
5,000 Illinois Central and Chicago, St. Louis & New Orleans 5% Bonds	5,000.00

Carried forward \$340,320.00

<i>Brought forward</i>		\$310,320.00
9,000 Baltimore & Ohio (Pittsburgh, Lake Erie & West Virginia) Ry. 4% Refunding Bonds	7,920.00	
9,000 Lehigh Valley Terminal 5% Bonds	9,090.00	
3,000 Central Railroad of New Jersey 5% Bonds.....	3,031.25	
7,000 United New Jersey R. R. & Canal 4% Bonds	6,230.00	\$366,591.25
Uninvested balance, December 31, 1917	2,740.71	
		<u>\$369,331.96</u>

H. R. MITCHELL,
Chief Clerk.
January 1, 1918.

PERCY R. PYNE,
Treasurer.

Endowment Fund Income Account

Schedule 10.

RECEIPTS.

Interest collected from Endowment Fund Investments	\$15,690.00
	<hr/>
	\$15,690.00

EXPENDITURES.

Accrued interest on bonds at time of purchase	181.44
Transferred to Income Account	15,508.56
	<hr/>
	\$15,690.00

H. R. MITCHELL,
Chief Clerk.
January 1, 1918.

PERCY R. PYNE,
Treasurer.

Cadmalader Animal Fund

Schedule 11.

Unexpended balance as of December 31, 1916:		
Cash in Bank	\$	500.00
Investment: \$20,000 (at par) Illinois Central & Chicago, St. Louis & New Orleans joint 5% Bonds	20,000.00	\$ 20,500.00

RECEIPTS.

Interest on investment	1,000.00
	<hr/>
	\$21,500.00

Unexpended balance as of December 31, 1917:		
Investment: \$20,000 (at par) Illinois Central & Chicago, St. Louis & New Orleans joint 5% Bonds	20,000.00	
Cash in Bank	1,500.00	\$ 21,500.00

H. R. MITCHELL,
Chief Clerk.
January 1, 1918.

PERCY R. PYNE,
Treasurer.

Wild Life Fund

Schedule 12.

Unexpended balance as of December 31, 1916	\$ 729.30
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RECEIPTS.

Sale of "Our Vanishing Wild Life"	226.30
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	<hr/> \$955.60
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EXPENDITURES.

Telegraph and express	\$ 31.54	
Miscellaneous expenses	55.05	86.59

Unexpended balance as of December 31, 1917	869.01
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	<hr/> \$955.60
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H. R. MITCHELL,
Chief Clerk.
January 1, 1918.

PERCY R. PYNE,
Treasurer.

Improvement and Repair Account

Schedule 13.

Unexpended balance as of December 31, 1916	\$ 1,576.65
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RECEIPTS.

Gate Receipts	2,000.00
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	<hr/> \$ 3,576.65
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EXPENDITURES.

East side improvements	\$ 7.00	
Shelter pavilion	969.74	
Small Mammal House	1,567.23	
New Storage shed	367.47	
Miscellaneous	80.00	
Walk repairs	229.17	
Guard rails	267.70	3,488.31

Transferred to Animal Fund	88.34
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	<hr/> \$3,576.65
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H. R. MITCHELL,
Chief Clerk.
January 1, 1918.

PERCY R. PYNE,
Treasurer.

Carnegie Pension Fund

Schedule 14.

Funds as of December 31, 1916:

Investments at cost	\$100,066.25
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Funds as of December 31, 1917:

Investments at cost:

\$25,000 Philadelphia & Baltimore 1st Mortgage 4% Gold Bonds	\$23,250.00	
25,000 Lehigh Coal & Navigation 4½ % Bonds.....	24,875.00	
25,000 Illinois Central 4% Bonds	23,062.50	
5,000 Morris & Essex 3½ % Bonds	4,373.75	
25,000 Chicago & Northwestern 4% Bonds	23,687.50	
1,000 Michigan Central 3½ % Bond	817.50	\$100,066.25

H. R. MITCHELL,
Chief Clerk.
January 1, 1918.

PERCY R. PYNE,
Treasurer.

RECEIPTS AND EXPENDITURES

OF THE

Pension Fund Income Account

Schedule 15.

Uninvested balance as of December 31, 1916:

Deposited with Farmers' Loan & Trust Co.	\$ 2,416.91	
Deposited with Corn Exchange Bank (Bronx)	499.95	\$ 2,916.86

Investments at cost	23,288.75
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RECEIPTS.

Interest on bank balances		101.20
Interest on bond investments		1,140.33
Dues collected from Zoological Society Employees.....		3,047.70
Contributed by New York Zoological Society:		
Interest on Carnegie Pension Fund Investments	\$ 4,335.00	
Cash payments, year 1917	3,665.00	8,000.00
		<u>\$38,494.84</u>

EXPENDITURES.

Refund of dues with accrued interest to resigning members	\$ 471.56	
Clerical services and printing	278.00	
Physical examinations (made by Dr. G. J. Van der Smissen)	37.00	
Death benefits paid during year 1917	81.17	\$67.73
Investments at cost:		
\$5,000 New York City 4½ % Bonds	\$ 5,093.75	
5,000 Illinois Central and Chicago, St. Louis & New Orleans Ry. joint 5% Bonds	4,981.25	
Carried forward	\$10,075.00	\$867.73

<i>Brought forward</i>	\$10,075.00	\$867.73
5,000 Milwaukee, Sault Sainte Marie & Atlantic Ry. first 4% Bonds	4,868.75	
4,000 Baltimore & Ohio (Pittsburgh, Lake Erie & West Virginia) Ry. 4% Refunding Bonds	3,520.00	
5,000 Twenty-third Street Improvement & Refunding 5% Bonds	4,825.00	
*6,000 United New Jersey Ry. & Canal 4% 1923 Bonds	5,925.00	
*5,000 U. S. Government Second Loan 4% Liberty Bonds	5,000.00	\$ 34,213.75
<hr/>		
Uninvested balance as of December 31, 1917:		
Deposited with Farmers' Loan & Trust Co.	\$ 3,137.27	
Deposited with Corn Exchange Bank (Bronx)	274.69	
Cash on hand	1.40	3,413.36
		<hr/>
		\$38,494.84

H. R. MITCHELL,
Asst. to Treas.
January 1, 1918.

PERCY R. PYNE,
Treasurer.

*Purchased during 1917.

Tropical Research Fund

Schedule 16.

Unexpended balance as of December 31, 1916 \$ 17.57

RECEIPTS.

Special Subscriptions:

Cleveland H. Dodge	\$ 1,000.00	
Andrew Carnegie	1,000.00	
C. Ledyard Blair	1,000.00	
George J. Gould	1,000.00	
Mortimer L. Schiff	1,000.00	
American Museum of Natural History	250.00	\$ 5,250.00
		<hr/>
		\$ 5,267.57

EXPENDITURES.

Salary of directing curator and assistant	\$ 2,900.00	
Travelling and other expenses	600.00	
Miscellaneous expenses	301.94	3,801.94
		<hr/>
Unexpended balance as of December 31, 1917		1,465.63
		<hr/>
		\$5,267.57

H. R. MITCHELL,
Chief Clerk.
January 1, 1918.

PERCY R. PYNE,
Treasurer.

Art Gallery Fund

Schedule 17.

Unexpended balance as of December 31, 1916:		
Available for expenditure during 1917	\$ 6,264.92	
Received on account of subscriptions paid in advance		
for 1918, 1919	500.00	\$ 6,764.92

RECEIPTS.

Special Subscriptions:		
Edw. S. Harkness	\$ 250.00	
Cleveland H. Dodge	250.00	
Mortimer L. Schiff	250.00	
Ogden Mills	250.00	
Frederick G. Bourne	250.00	
George F. Baker	250.00	
Lispnard Stewart	250.00	
Percy R. Pyne	250.00	
Joseph A. McAleenan	250.00	
Grant B. Schley	250.00	
Charles F. Dieterich	250.00	
Andrew Carnegie	250.00	
Watson B. Dickerman	250.00	
George J. Gould	250.00	
Frank K. Sturgis	250.00	\$ 3,750.00

EXPENDITURES.

Oil Paintings	\$ 2,499.00	\$10,514.92
Miscellaneous expenses	12.71	2,511.71

Unexpended balance as of December 31, 1917:		
Available for expenditure during 1918	\$ 7,753.21	
Received on account of subscription paid in advance		
for 1919	250.00	8,003.21
		\$10,514.92

H. R. MITCHELL,
Chief Clerk.
January 1, 1918.

PERCY R. PYNE,
Treasurer.

Publication Fund

Schedule 18.

Unexpended balance as of December 31, 1916	\$ 6,000.00
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RECEIPTS.

Sale of "Tropical Wild Life in British Guiana"	297.00
	\$6,297.00

EXPENDITURES.

Tropical Wild Life in British Guiana	5,221.60
Unexpended balance as of December 31, 1917	1,075.40
	\$6,297.00

H. R. MITCHELL,
Chief Clerk.
January 1, 1918.

PERCY R. PYNE,
Treasurer.

Grads and Horns Building Fund

Schedule 19.

Unexpended balance as of December 31, 1916 _____ \$ 5,000.00

RECEIPTS.

Special Subscriptions:

Mrs. Frederick Ferris Thompson	\$ 5,000.00	
George F. Baker	10,000.00	
E. C. Converse	10,000.00	
Mrs. Russell Sage	10,000.00	
Andrew Carnegie	10,000.00	
Mrs. Andrew Carnegie	10,000.00	
In Memoriam (Samuel Thorne)	10,000.00	\$ 65,000.00
		<hr/>
		\$70,000.00

EXPENDITURES.

Architect's commissions, etc.		1,016.38
Unexpended balance as of December 31, 1917:		
Investment: \$55,000 U. S. Government 3½ % Lib-		
erty Bonds	\$55,000.00	
Cash in Bank	13,983.62	68,983.62
		<hr/>
		\$70,000.00

H. R. MITCHELL,
Chief Clerk.
 January 1, 1918.

PERCY R. PYNE,
Treasurer.

Salary Bonus Fund

Schedule 20.

RECEIPTS.

Special Subscriptions:

Emerson McMillin	\$ 2,280.00	
Edw. S. Harkness	2,000.00	
Cleveland H. Dodge	1,500.00	
Mortimer L. Schiff	1,140.00	
Ogden Mills	1,000.00	
Andrew Carnegie	1,000.00	
Wm. Pierson Hamilton	1,000.00	
E. C. Converse	1,000.00	
Grant B. Schley	500.00	\$ 11,420.00
Income Account (transfer)		117.79
		<hr/>
		\$11,537.79

EXPENDITURES.

Salary Bonus	\$ 11,537.79
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H. R. MITCHELL,
Chief Clerk.
 January 1, 1918.

PERCY R. PYNE,
Treasurer.

Pheasant Aviary Fund

Schedule 21.

RECEIPTS.

Special Subscriptions:

Percy R. Pyne	\$	200.00	
Anthony R. Kuser		200.00	\$ 400.00

EXPENDITURES.

Pheasant Aviary	258.67
Unexpended balance as of December 31, 1917	141.33
	<hr/> \$400.00

H. R. MITCHELL,
Chief Clerk.
 January 1, 1918.

PERCY R. PYNE,
Treasurer.

MARWICK, MITCHELL, PEAT & CO.

CHARTERED ACCOUNTANTS

79 WALL STREET

NEW YORK

Auditors' Certificate

We have audited the books and accounts of the New York Zoological Society, and of the "Carnegie Pension Fund" for the year ending December 31, 1917, and certify that the foregoing Schedules, "1" to "21" of cash receipts and expenditures are in accordance with the books, and correctly record the transactions relating to the Funds of the Society and the "Carnegie Pension Fund" for the year 1917, and the condition of the various Funds as of December 31, 1917. The subscriptions, donations and dues reported as received and the income from investments, have been properly accounted for, and the securities and cash in bank and on hand at December 31, 1917, as shown in the accounts of the Funds presented herewith, have been checked and found in order.

Schedule "3" includes expenditures amounting to \$1,537.92 made through the Park Department of the City of New York, which have not been verified by us, but we have incorporated them in the statements submitted, so that these may be complete.

MARWICK, MITCHELL, PEAT & Co.,

Chartered Accountants.

79 Wall Street, New York,

March 7, 1918.

Report of the Auditing Committee
OF THE
NEW YORK ZOOLOGICAL SOCIETY

*To the President and Board of Managers
Of The New York Zoological Society:*

Dear Sirs:—

We beg to report we have examined the annual audit of the books and accounts of the New York Zoological Society for the year ending December 31, 1917, as made by Messrs. Marwick, Mitchell, Peat & Company, Chartered Accountants, and herewith submit the same to you as a complete and satisfactory audit of said books and accounts, including the Carnegie Pension Fund and the Pension Fund Income Account, all expenditures and receipts of the various accounts being clearly set forth, and it appearing that the cash on hand and at the various depositories has been verified and found correct, and all securities in which the funds of the Society are invested have been examined and found as reported.

Expenditures made through the Park Department of the City of New York have not been verified by this audit as such moneys have not passed through the hands of this Society, but are in due course checked and verified by the Comptroller of the City.

Respectfully submitted,

WILLIAM WHITE NILES.
Chairman.

LISPENARD STEWART.

ANTHONY R. KUSER.

List of Accessions, 1917
BY THE ZOOLOGICAL SOCIETY
AT THE ZOOLOGICAL PARK.

BY GIFT.

- ADOLPH, F. K., Jersey City, N. J.:
Alligators (2 specimens).
- AHERN, W. F., Brooklyn, N. Y.:
Herring Gull.
- ALLGOEVER, C., Northport, L. I.:
2 American Crows, 2 Red-Tailed Hawks.
- AMMAN, JOSEPH, Asbury Park, N. J.:
Gila Monster.
- ANDERSON, JAMES, New York City:
Coyote.
- ASCIONE, V., Belmar, N. J.:
Great Horned Owls (2 specimens).
- BACHMAN, FRED F., New York City:
American Sparrow Hawk.
- BAILAN, JAMES J., Otisville, N. Y.:
Milk Snake.
- BAJART, SERGT. CHARLES, JR., Camp Upton, L. I.:
White-Tailed Deer.
- BALSAM, MRS. L. C., Lynbrook, L. I.:
1 Yellow Grass Parakeet, 1 Canary.
- BARKMAN, DAVID F., Morristown, N. J.:
Java Monkey.
- BARTHOLOMEW, R. B., New York City:
1 Tarantula, 1 Horned Lizard, 2 Opossums. Total, 4 specimens.
- BEDFORD, H. M., United Fruit Co., New York City:
2 Central American Boas, 1 Centipede, 1 Gecko, 1 Palm Viper. Total, 5 specimens.
- BELDEN, H., Brooklyn, N. Y.:
Hog-Nosed Snake.
- BELL, E. LAYTON, Flushing, L. I.:
Timber Rattlesnake.
- BENEDICT, J. H., Utica, N. Y.:
Red-Shouldered Hawks (2 specimens).
- BENJAMIN, GILBERT S., Rutherford, N. J.:
Black Snake.
- BIRCHALL, MRS. F. T., New York City:
2 Red-Billed Hill-tits, 1 Olive Saltator, 1 Lesson Oriole. Total 4 specimens.
- BLUMENSTIEL, EDWIN RICHARD, New Rochelle, N. Y.:
Red-Crested Cardinal.
- BORDEN, SETH A., Fall River, Mass.:
Silver-Melenotus Pheasant Hybrid.

- BOWDISH, BEECHER S., Demarest, N. J.:
1 Green Snake, 2 Garter Snakes.
- BOWMAN BROTHERS, Clinton Corners, N. Y.:
Water Snake.
- BRATT, ARTHUR, Hackensack, N. J.:
3 Spotted Turtles, 2 Wood Turtles, 4 Box Turtles, 2 Painted Turtles. Total,
11 specimens.
- BROWN, JAMES E., Newark, N. J.:
Flicker.
- BROWN, WILLIAM B., JR., New York City:
Alligator.
- BRUGGERSON, MISS JOSEPHINE, New York City:
Saw-Whet Owl.
- BRYCE, MRS. PETER COOPER, New York City:
Ocelots (2 specimens).
- BUNNELL, E. P., Hackettstown, N. J.:
Great Horned Owl.
- BUSCHER, AUGUST C., New York City:
Canada Porcupine.
- BUSSEY INSTITUTION, HARVARD UNIVERSITY, Boston, Mass.:
Wild Cavies (4 specimens).
- CAMP WOODLAND, Phoenicia, N. Y.:
Canada Porcupine.
- CANALES, GREGORY, New York City:
Alligator.
- CARR, MRS. HENRY C., New York City:
Yellow-Backed Cacique.
- CLARK, C. M., Chattanooga, Tenn.:
Hog-Nosed Snakes (2 specimens).
- CLARK, ROY, Belmont, N. J.:
Great Horned Owl.
- COMPANY G, 47th N. Y. INFANTRY, St. Elmo, N. Y.:
2 Black Snakes, 1 Water Snake, 1 Milk Snake. Total, 4 specimens.
- COMPANY I, 12th N. Y. INFANTRY, through Sergt. George Miller, New York City.
Audubon Caracara.
- CONNORS, LESTER, New York City:
Alligator.
- CONRADT, G. A., Bethlehem, Pa.:
1 Water Snake, 1 Milk Snake, 1 DeKay Snake. Total, 3 specimens.
- CONSERVATION COMMISSION OF LOUISIANA, through Stanley C. Arthur, State Ornithologist, New Orleans, La.:
2 Caspian Terns, 2 Royal Terns, 2 Cabot Terns. Total, 6 specimens.
- CONSTANCE, MISS, New York City:
Macaque Monkey.
- COOK, MRS. F., New York City:
Pigeon.
- CROCKER, MISS JOSEPHINE, New York City:
Horned Lizard.
- CURTIS, B. S., Baldwin, L. I.:
Alligator.
- CURTISS, MASTER ROY, New York City:
2 Alligators, 1 Japanese Newt.
- CUTLER, MRS. DWIGHT, Detroit, Mich.:
1 Zebra Finch, 1 Masked Grass Finch.
- DAHM, GEORGE M., Brooklyn, N. Y.:
Purple Gallinule.
- DECKER, G. H., New York City:
Alligators (2 specimens).

- DE PACE, MRS. M., New York City:
White-Faced Sapajou.
- DIXON, MISS SUSAN, New York City:
Undulated Grass Parakeet.
- DONOWITZ, P. T., New York City:
Horned Owl.
- DRAMATIC DEPARTMENT, *New York Herald*, New York City:
Alligator.
- DUBENAU, MISS BESSIE, New York City:
Blue-Fronted Amazon.
- EVELAND, MASTER WINSOW, Mt. Vernon, N. Y.:
Alligator.
- EVERSON, A. M., New York City:
Brown Tree Snake.
- FAGAN, CAPT. E. J., New York City:
Brown Thrasher.
- FIGGINS, JOHN D., Denver, Colo.:
Bohemian Waxwings (4 specimens).
- FRAWLEY, WILLIAM T., Camp Mills, Hempstead, L. I.:
Cinnamon Bear Cubs (2 specimens).
- FRITCH, HUGO, New York City:
Canaries (2 specimens).
- FULENDORF, MISS M., New York City:
Canary.
- GASZ, JOSEPH H., Jamaica, L. I.:
Great Blue Heron.
- GEST, MRS. G. M., New York City:
Rhesus Monkey.
- GILLAM, A. L., Flushing, L. I.:
4 Timber Rattlesnakes, 6 Black Snakes, 12 Garter Snakes, 2 Copperhead Snakes, 3 Water Snakes, 1 Milk Snake, 1 Box Turtle. Total, 29 specimens.
- GILLETTE, DR. CURTENIUS, New York City:
Orange-Wing Amazon Parrot.
- GLADDEN, GEORGE, Brooklyn, N. Y.:
Woodcock.
- GOLDHOEN, DR. L. B., Mt. Vernon, N. Y.:
Ring-Tailed Coati Mundi.
- GOODRIDGE, MRS. F. S., New York City:
Ocelot.
- GOODWIN, MASTER MILTON, New York City:
Copperhead Snakes (2 specimens).
- GREVE, GEORGE, New York City:
Texas Rattlesnake.
- HAVEMEYER, T. A., New York City:
2 Semipalmated Geese, 2 Little White-fronted Geese.
- HERMANN, J. F., New York City:
Humming Bird.
- HITCHCOCK, MRS. THOMAS, Westbury, L. I.:
Black Bear Cub.
- HOLLISTER, G. C., New Rochelle, N. Y.:
Snapping Turtle.
- HORNE, HERMAN H., Leonia, N. J.:
Opossum.
- HOWE, MASTER PHILIP, New York City:
Alligator.

- HURD, DR. AND MRS. L. M., New York City:
Black Bear Cub.
- JACKSON, C. J., Brooklyn, N. Y.:
Alligator.
- JAHN, MRS. SOPHIE, New York City:
Terrapin (3 specimens).
- JOHNSON, MISS ELSIE, New York City:
Central American Boa.
- JOSEPH, ELLIS S., Sydney, N. S. W.:
2 Black-Faced Kangaroos, 2 Bandy-Bandy Snakes, 3 Australian Whip Snakes,
2 Western Emus. Total, 9 specimens.
- JOY, RUSSELL T., Brooklyn, N. Y.:
Desert Swift.
- KAISER, CHARLES EDGAR AND HAROLD, Crestwood, N. J.:
Red-Tailed Hawk.
- KELLER, HARRY, New York City:
Florida Gallinule.
- KOEMPEL, DR. FRANZ, New York City:
Flying Squirrel.
- KOOPMAN, MASTER GEORGE, New York City:
Box Turtle.
- LACROSAZ, MISS MARIE, Mekanow, Ill.:
Raccoon.
- LAWRENCE, MRS. EDWARD, New York City:
Lesser Sulphur-Crested Cockatoo.
- LEACH, J. S. M., Plymouth, Conn.
Green Snake.
- LINCOLN PARK Zoo, through Mr. Cy. B. DeVry, Director, Chicago, Ill.:
Gila Monsters (2 specimens).
- LINCOLN, VICTOR A., New York City:
Alligators (2 specimens).
- LOUGHLIN, M. L., New York City:
Diamond-Back Terrapin.
- LOW, MRS. JOHN M., Mountain Lakes, N. J.:
JAVA MONKEY.
- LOW, MRS. W., Brooklyn, N. Y.:
Troupial.
- MAC FADDEN, C. K., New York City:
1 Caiman, 1 White-Faced Sapajou.
- McKAY, MRS. W., New York City:
Squirrel Monkey.
- MAKINEN, REV. KALLE, New York City:
West Indian Terrapin.
- MARINO, J. A., New York City:
Alligator.
- MARONEY, JOSEPH, Brooklyn, N. Y.:
Flicker.
- MARSH, DUKE D. W., Philadelphia, Pa.:
Red-Shouldered Hawk.
- MATTAU, LUIS, New York City:
Brown Pelican.
- MEIGS, WILLIAM POLLOCK, JR., Passaic, N. J.:
Canada Porcupine.
- MENCHEN, THEODORE, Jamaica, L. I.:
Black Snakes (9 specimens).
- MERK, MRS. A., New York City:
Box Turtle.

- MESINGER, MRS. F., New York City:
American Sparrow Hawks (2 specimens).
- METZ, DR. PAUL, New York City:
Woodchuck.
- MEYER, WILLIAM H., New York City:
Barn Owl.
- MILLER, CHARLES, Hillsdale, N. Y.:
Woodchucks (2 specimens).
- MILLER, E. B., New York City:
Canary.
- MILLWARD, RUSSELL HASTINGS, New York City.
1 Tree Porcupine, 1 Black Spider Monkey.
- MOREUX, MR. AND MRS. J. A., New York City:
Flying Squirrels (2 specimens).
- MOULTON, MRS. A. J., New York City:
1 Demoiselle Crane, 1 Mealy Rosella Parakeet, 2 Indian Ring-Neck Parakeets,
5 Undulated Grass Parakeets, 1 Gray-Headed Lovebird, 1 Red and Blue
Macaw, 1 Blue and Yellow Macaw, 2 Bank Mynas, 2 Troupials, 1 Purple
Gallinule, 2 Yucatan Jays. Total, 19 specimens.
- MOWBRAY, MISS DOROTHY M., New York City:
Crab-Eating Raccoon.
- MUDGE, W. C., New York City:
Turks Island Iguana.
- MURRAY, JOHN K., JR., New York City:
1 Large Horned Lizard, 1 Blotched Chicken Snake.
- MURRINO, MATTHEW, Cresskill, N. J.:
Screech Owl.
- NATIONAL ZOOLOGICAL PARK, through Mr. A. B. Baker, Asst. Supt., Washington,
D. C.:
Turkey Vultures (2 specimens).
- NEELEY, SERGT. WILLIAM G., New York City:
Alligator.
- NEUHAUS, FREDERICK, Newark, N. J.:
Long-Armed Baboon.
- N. Y. STATE CONSERVATION COMMISSION, Albany, N. Y.:
Canvas-Back Ducks (4 specimens).
- NONNENBACHER, H., New York City:
1 California Bull Snake, 1 Gray Squirrel.
- OGDEN, MASTER CORTLANDT R., Newark, N. J.:
3 Black Snakes, 2 Garter Snakes, 1 Water Snake. Total, 6 specimens.
- OUGHETREE, HARRY, Yonkers, N. Y.:
Opossum.
- PAINTER, KENYON V., Cleveland, Ohio:
Indian Black Cockatoo.
- PETERS, MISS EVELYN, Jersey City, N. J.:
Wood Turtle.
- PIHELPS, MRS. HELEN B., New York City:
Sulphur-Crested Cockatoo.
- PHILADELPHIA ZOOLOGICAL GARDENS, through R. D. Carson, Supt., Philadelphia,
Pa.:
Lund's Opossum (2 specimens).
- PONSO, JOHN, New York City:
Golden-Winged Amazon.
- POPE, CLIFFORD, Mt. Airy, Ga., and Flat Rock, N. C.:
17 Queen Snakes, 14 Southern Water Snakes, 4 Banded Water Snakes, 1
Chicken Snake, 1 Pine Snake, 4 Fence Swifts, 1 Chameleon. Total, 42
specimens.

- POSTENS, S. P., New York City:
Barbary Turtle Dove.
- RAPP, FRANK, New York City:
Hog-Nosed Snake.
- REGOORD, GEORGE, Buffalo, N. Y.:
Gray Fox.
- RICE, DR. AND MRS. HAMILTON, Newport, R. I.:
2 Squirrel Monkeys, 1 Sun Bittern, 1 Rufous Pigeon. Total, 4 specimens.
- RICHARDSON, ERNEST, New York City:
Red and Blue Macaw.
- RICHARDSON, DR. J. A., New York City:
Undulated Grass Parakeet.
- ROBERTSON, JOHN, New York City:
Troupial.
- ROLLSTAB, CARL, New Rochelle, N. Y.:
Snapping Turtle.
- RUSSELL, RICHARD H., Carlisle, Pa.:
2 Black Snakes, 1 Milk Snake, 1 Queen Snake, 4 Copperhead Snakes. Total,
8 specimens.
- SCHAEFER, MASTER LEWIS GEORGE, Corona, N. Y.:
Central American Rat.
- SCHAEFER, MARTIN, New York City:
Yellow-Checked Amazon Parrot.
- SCHIPPELL, A., New York City:
Chicken Snake.
- SCHNEIDER, H. G., New York City:
Sparrow Hawk.
- SCHNEIDER, HUGO H., Hastings-on-Hudson, N. Y.:
Horned Owl.
- SCHON, MATTHEW, New York City:
1 Pine Snake, 1 Southern Green Snake.
- SHELTON, MISS NATHALIE T., Larchmont Manor, N. Y.:
Alligator.
- SMALL, DR. JOHN K., New York City:
Florida Lynx.
- SMITH, MASTER ARTHUR, New York City:
Tarantula.
- SMITH, FLOYD, New York City:
Cuban Iguana.
- SNYDER, PAUL W., Bloomfield, N. J.:
2 Water Snakes, 3 Milk Snakes, 2 Ribbon Snakes, 1 Chicken Snake, 1 Garter
Snake. Total, 9 specimens.
- SPECK, DR. F. G., Philadelphia, Pa.:
2 Soft Shelled Turtles, 2 Chicken Turtles, 2 Mud Turtles, 5 Southern Musk
Turtles, 4 Horned Lizards, 1 Yellow-Bellied Terrapin. Total, 16 speci-
mens.
- SPENCER, JAMES D., New York City:
2 Milk Snakes, 2 Pilot Black Snakes, 2 Garter Snakes. Total, 6 specimens.
- STEESE, MRS. E. S., Mamaroneck, N. Y.:
Opossum.
- STESSGER, ALBERT, New York City:
South American Fox.
- STUTSMAN, FRANK V. H., Hackettstown, N. J.:
1 Timber Rattlesnake, 1 Blue-Tailed Lizard.
- TALBOT, A. P., New York City:
Java Monkey.

- TANNINBAUM, JACK, Baltusrol, N. J.:
Flying Squirrel.
- TEGTMIER, Miss SOPHIE, Jersey City, N. J.:
Purple Gallinule.
- THOMPSON, T. K., Yonkers, N. Y.:
American Crow.
- TOWNSEND, DR. CHARLES H., New York City:
Horned Lizards (3 specimens).
- TURNER, L. E., New York City:
Gila Monster.
- VAN DE NYDEN, A., New York City:
1 Ground Boa, 1 Tarantula, 1 Giant Tree Toad. Total, 3 specimens.
- VANDERVOORT, Mrs. W., New York City:
Canaries (2 specimens).
- VAN PRAAG, ABR. M., New York City:
Red-Billed Toucan.
- VIRDEN, CHARLES E., Dobbs Ferry, N. Y.:
Alligator.
- VOELTER, Mrs. E., New York City:
Canary-Wing Parakeet.
- VON BUEHREN, GEORGE, New York City:
2 Black Snakes, 1 Hog-Nosed Snake.
- WEBER, CHARLES B., New York City:
Saw-Whet Owl.
- WELD, K. U., New York City:
Yellow-Headed Amazon.
- WELSH, J. G., New York City:
Raccoon.
- WHIFFEN, EDWIN T., New Rochelle, N. Y.:
1 Black Snake, 1 Hog-Nosed Snake.
- WILLIAMS, ROBERT B., JR., Newark, N. J.:
Pine Snake.
- WILLIAMSON, J. W., New York City:
Alligator.
- WILSON, Mrs. GEORGE B., Great Neck, L. I.:
Raccoons (2 specimens).
- WILSON, H., New York City:
Blue-Fronted Amazon.
- WINDLE, R. T., JR., New York City:
Alligator.
- WINTHROP, Miss EMILY, Lenox, Mass.:
14 Barbary Turtle Doves, 11 White Turtle Doves, 3 Bronze-Wing Pigeons,
2 Australian Crested Doves. Total, 30 specimens.
- WIRTH, HENRY, New York City:
Alligator.
- WORTHINGTON, CHARLES C., Shawnee-on-Delaware, Pa.:
1 Fox Squirrel, 4 Gray Squirrels, 3 Raccoons, 2 Red Foxes, 1 Virginia Deer.
Total, 11 specimens.
- YOUNGS, J. WILLIS, Fort Myers, Fla.:
1 Congo Snake, 1 Siren.
- ZEIMET, CARLO, New York City:
2 Walter Snakes, 1 Banded Rattlesnake, 1 Copperhead Snake. Total, 4
specimens.
- ZIMMERMAN, J. J., Ridgewood, N. J.:
Yellow-Fronted Amazon.

Plants

BY GIFT.

- BODDINGTON COMPANY, INC., ARTHUR T., New York City:
2,750 Bulbs of Hyacinth, Tulip and Narcissus.
FREEMAN, MRS. FRANK, New York City:
Rubber Plant.
LAWRENCE, TOWNSEND, Flushing, L. I.:
Collection of Large Plants.
MEYER, MRS. E., New York City:
Rubber Plant.

National Collection of Heads and Horns

BY GIFT.

- AMERICAN MUSEUM OF NATURAL HISTORY, New York City:
Okapi (*Okapi johnstoni*). Mounted Head. Collected for the National Collection of Heads and Horns by Herbert Lang and James P. Chapin, 1910.
GOULD, DR. AND MRS. FREDERIC S., Santa Barbara, Calif.:
Black-Faced Caribou (*Rangifer montanus*). Mounted Head. Collected by George H. Gould.
SWOPE, DR. SAMUEL D., Deming, N. M.:
Mexican Mountain Sheep (*Ovis mexicanus*). Horns.

Library

- BRITISH MUSEUM OF NATURAL HISTORY, The Trustees of the, London, England:
Catalogue of the Fresh-Water Fishes of Africa. Vol. IV. Catalogue of the Ungulate Mammals in the British Museum. Vol. V. Guide to the Specimens and Enlarged Models of Insects and Ticks. The Louse and Its Relation to Disease.
CARNEGIE INSTITUTION, Washington, D. C.:
Year Book. Vols. 1-15, inclusive.
LANGMANN, MRS. G., in memory of Dr. Gustav Langmann, New York City:
La Défense contre L'Ophidisme, by Dr. Vital Brazil. (4 copies.)
MUSEO NACIONAL DE HISTORIA NATURAL, Mexico City, Mexico:
La Naturaleza. Vols. 2, 4, 5, 6, 7.
NASIR, C. W., Toronto, Canada:
Vertebrates of Ontario.
ONEILL, CLEMENTE, Buenos Aires, Argentina:
Atlas del Cerebro de los Mamíferos de la Republica Argentina.
PAUL, JOHN JAY, Watertown, Fla.:
Naturalist in British Columbia, by John Keast Lord. Vols. I and II.
American Beaver and His Works, by Lewis H. Morgan. History of the American Bison, by J. A. Allen. Sportsman and Naturalist in Canada, by W. Ross King. Natural History of Serpents, by Charles Owen, D. D. American Bisons, Living and Extinct, by J. A. Allen. Venoms of Poisonous Serpents, by S. Weir Mitchell, M. D. Verzeichniss der Reptilien, by Maximilian, Prinz zu Wied. North American Oölogy, by Thomas M. Brewer, M. D. Natural History of the United States, by Louis Agassiz. Vols. I and II. Life Histories of North American Birds, by Charles Bendire. Vols. I and II. Piscium, Serpentium, Insectorum (of Florida and North Carolina), by Marcus Catesby. The Camel, by Elijah Walton.

SARASIN, DR. PAUL, Basel, Switzerland:

Jahresbericht-Schweizerische Naturschutzcommission. Ueber die Aufgaben des Weltnaturschutzes, by Paul Sarasin. Ueber die Ausrottung der Wal-und Robben fauna, by Paul Sarasin. Die Schweizerische Naturschutzcommission, by Paul Sarasin.

SMITH, FRANKLIN S., Montclair, N. J.:

Zoology of Pacific R. R. Routes. 2 Volumes.

WOOD, DR. ALBERT CASEY, Chicago, Ill.:

The Fundus Oculi of Birds, by Dr. Albert Casey Wood.

AT THE AQUARIUM.

BY GIFT.

AITKEN, MR. H. W., Philadelphia, Pa.:

Box Tortoise, Western Pond Turtle, Diamondback Terrapin (2 specimens).
Total, 4 specimens.

BECKER, MISS M., New York City:

Alligator.

BEINGMAN, MRS. JOHN, New York City:

Box Tortoise (2 specimens).

BRUCE, MR. E. K., Thornburg, Iowa:

Fancy Goldfish (10 specimens).

CANFIELD, MR. JAMES, Fairview, N. J.:

Alligator.

CERVENY, MR. JOSEPH F., New York City:

Alligator.

COLLINS, MR. R. P., Jersey City, N. J.:

Alligator.

CREGAN, MRS. T., Jersey City, N. J.:

Alligator.

DA CUNHA, MR. VICTOR F., New York City:

Alligator.

DAVIDSON, CAPT. T., S.S. COMAL, Mallory Line:

Loggerhead Turtle (10 specimens).

DECKER, CAPT. F. C., Princess Bay, Staten Island, N. Y.:

Sea Urchins (2 specimens), Starfish (2 specimens). Total, 4 specimens.

FINEDO, MISS ANNA L., New York City:

Slider Terrapin.

FINN, FRED, MR., New York City:

Alligator.

FIRE BOAT NEW YORKER, New York City:

Angler.

FOCASCI, MR. JOHN J., South Beach, Staten Island, N. Y.:

Silver Moonfish.

FOX, MR. R. J. H., Suendon, England:

Madagascar Tortoise.

FRAZER, MASTER TITOMAS, Brooklyn, N. Y.:

Painted Turtle.

GATES, MRS. GURDON, Brooklyn, N. Y.:

Diamondback Terrapin (3 specimens).

HANNA, MR. GEORGE F., New York City:

Alligator (2 specimens).

HELLER, MR. F. J., Brooklyn, N. Y.:

Alligator.

- HOBSON, MR. A. J., Lynbrook, Long Island, N. Y.:
Sea Horse.
- HOLLINS, MR. G. V., East Islip, Long Island, N. Y.:
Diamondback Terrapin.
- HUFF, MISS S. A., Brooklyn, N. Y.:
Alligator.
- JOCHIMOSKY, MR. S., New York City:
Diamondback Terrapin.
- JOHNSON, MR. L. A., Bermuda, West Indies.
Sea Anemone (4 specimens).
- KELLY, MR. J. R., New York City:
Box Tortoise.
- KOWES, MISS ESTELLE, Brooklyn, N. Y.:
Alligator.
- LEFARGEAN, MR. CHARLES, New York City:
Spiny Boxfish.
- LILLIE, MISS JENNIE, New York City:
Conch Shell.
- LONDON, MR. ELLIS J., New York City:
Slider Terrapin.
- LYNCH, MR. GEORGE W., New York City:
Gopher Tortoise.
- MANITZEN, MR. W. A., Brooklyn, N. Y.:
Wood Turtle.
- MAYER, DR. A. G., Dry Tortugas, Fla.:
Land Crab (43 specimens).
- McELLAND, MASTER LEFFERTS A., Brooklyn, N. Y.:
Sea Horse.
- McLENNAN, MRS. C. W., New York City:
Painted Turtle.
- MERLIN, MISS BETTY, Brooklyn, N. Y.:
Alligator (3 specimens).
- MOORE, MR. THOMAS H., JR., Brooklyn, N. Y.:
Alligator.
- MUELLER, MR. CAESAR F., Brooklyn, N. Y.:
Slider Terrapin.
- POWERS, MISS ANNETTE, New York City:
Slider Terrapin.
- PRENTICE, MR. H. O., Woodcliff-on-Hudson, N. J.:
Alligator.
- SARRUBBI, DR. PAUL, New York City:
Alligator (5 specimens).
- SCHAWADRON, MR. JULIUS, New York City:
Spotted Turtle.
- SCHLESINGER, MR. F. R., New York City:
Painted Turtle.
- SCHMID, MR. E., New York City:
Painted Turtle, Box Turtle. Total, 2 specimens.
- SCHWADSON, MR. JULIUS, New York City:
Box Tortoise.
- SELDITCH, MR. SAMUEL, Brooklyn, N. Y.:
Box Tortoise.
- SINK, MR. DAVID C., JR., Dobbs Ferry, N. Y.:
Alligator.
- SPSAFKIN, MR. HENRY, New York City:
Common Toad.
- SPURLING, MRS. EBER L., Cranberry Isles, Maine:
Deep Water Crab.

THALLER, MR. W. E. H., Newark, N. J.:

Goldfish (31 specimens).

TRUNDY, MR. R. P., Brooklyn, N. Y.:

Alligator (2 specimens).

TUTHILL, MR. E. B., Montauk, Long Island, N. Y.:

Large Blue Lobster.

VERMAK, MR. ANTON, New York City:

Box Tortoise.

WEISBACH, MASTER WILLIAM, New York City:

Spotted Turtle (5 specimens), Painted Turtle (2 specimens), Box Tortoise.

Total, 8 specimens.

WHIPPLE, MR. JOHN, Brooklyn, N. Y.:

Alligator.

WRIGHT, MR. FREDERICK, New York City:

Alligator.

WYLLY, MISS ETHEL AND MASTER RICHARD, Tompkinsville, S. I., N. Y.:

Slider Terrapin (2 specimens).

BY PURCHASE.

Seven Queen Angels, 39 Blue Angels, 82 Black Angels, 11 French Angels, 4 Yellow-Tailed Angels, 5 Green Morays, 5 Spotted Morays, 8 Black Groupers, 4 Yellow-Finned Groupers, 2 Princess Rockfish, 22 Red Groupers, 8 Nassau Groupers, 3 Gag, 4 Scamp, 1 Jewfish, 19 Cowfish, 12 Buffalo Trunkfish, 13 Spadefish, 17 Muttonfish, 84 Spot Snappers, 9 Dog Snappers, 27 Gray Snappers, 22 Schoolmasters, 11 Littlehead Porgies, 18 Grass Porgies, 2 Jolthead Porgies, 53 Gray Grunts, 26 Blue-Striped Grunts, 3 Margate, 175 White Grunts, 11 Yellow Grunts, 2 Golden Grunts, 15 Tom Tates, 4 Cavally, 1 Jack, 8 Yellow Mackerel, 2 Neverbite, 3 Amberfish, 48 Yellow Tails, 77 Rainbow Parrots, 2 Blue Parrots, 2 Mud Parrots, 12 Common Parrots, 16 Red Hogfish, 8 Sea Catfish, 12 Red Hind, 30 Rock Hind, 1 Marbled Hamlet, 3 Red Coney, 1 Yellow Coney, 10 Southern Puffers, 3 Scorpion-fish, 67 Beau Gregory, 76 Sergeant Major, 8 Graysby, 246 Porkfish, 106 Sea Horses, 4 Ocean Trigger-fish, 7 Common Trigger-fish, 2 Queen Trigger-fish, 10 Chub, 15 Salema, 15 Surgeon-fish, 9 Massachusetts Filefish, 6 Shark Suckers, 1 Blue Tang, 9 Butterfly-fish, 5 Butter Hamlet, 2 Apogon, 1 Pudding Wife, 2 Sandfish, 5 Toadfish, 16 Spiny Boxfish, 11 Grass Fish, 2 Pin Fish, 5 Slippery Dick, 1 Nurse Shark, 3 Soap Fish, 5 Flying Gurnard, 1 Red Snapper, 67 Prickly Skates, 3 Barndoor Skates, 33 Flounders, 30 Star Flounders, 24 Sculpin, 19 Herring, 4 Shad, 37 Whiting, 5 Striped Bass, 35 Brown Hake, 7 Lamprey Eels, 4 Blackfish, 1 Sea Bass, 2 Sturgeon, 110 Weakfish, 57 Spots, 7 Croakers, 4 Puffers, 46 Menhaden, 35 Bluefish, 11 Sea Robins, 6 Dogfish, 13 Fluke, 54 Orange Filefish, 22 Common Mackerel, 1 Silver Moonfish, 6 Butterfish, 1 Pompano, 1 Angler, 32 Spiny Lobsters, 12 Lobsters, 32 Stone Crabs, 31 Red Hermit Crabs, 1 Box Crab, 22 Spider Crabs, 109 King Crabs, 4 Lady Crabs, 10 Rock Crabs, 8 Green Crabs, 25 Blue Crabs, 3 Alligator Snapping Turtles, 25 Young turtles, (4 varieties), 4 Starfish, 1 Basket Starfish, 2 Conch, 2 Whelks, 2 Strombus, 3 Micromack, 1 Cowrie, 5 Hawksbill Turtles, 1 Green Turtle.

The specimens received during the year totaled 2,753, of which 166 were donated, 2,587 purchased. In addition, the U. S. Bureau of Fisheries at Washington donated 2,025,000 fish eggs for the hatchery as follows:

Eggs of Whitefish	500,000
“ “ Brook Trout	5,000
“ “ Black-spotted Trout	20,000
“ “ Codfish	1,500,000

SPECIMENS RECEIVED BY EXCHANGE.

DETROIT AQUARIUM, Belle Isle, Detroit, Michigan:

Three Sheepshead, 9 Stone Catfish, 10 Yellow Perch, 5 Sunfish, 2 Large-mouthed Black Bass, 4 Blue Catfish, 2 Mud Puppies.

NEW JERSEY FISH COMMISSION, Hackettstown, N. J.:

Fifteen Pickerel, 6 Common Roach, 1 Chubb Sucker, 3 Yellow Perch, 75 Hybrid Trout, 200 Quinnot Salmon, 27 Rainbow Trout, 34 Brook Trout, 21 Brown Trout, 3 Crappie.

NEW YORK CONSERVATION COMMISSION, Albany, N. Y.:

Six Muskallunge, 13 Bullheads, 2 Gar Pike, 13 Eels, 4 Burbot, 1 Catfish.

PHILADELPHIA AQUARIUM, Fairmount Park, Philadelphia, Pa.:

Sixty Calico Bass, 10 Yellow Perch, 5 Sunfish, 2 Large-mouthed Black Bass, 4 Blue Catfish, 2 Mud Puppies.

The Aquarium Library

BY GIFT.

AQUARIUM SOCIETY OF PHILADELPHIA, Philadelphia, Pa.:

"Aquarium Notes and News," 1914-1915-1916-1917.

BROOKLYN AQUARIUM SOCIETY, Brooklyn, N. Y.:

"The Aquarium Bulletin," 1915-1916-1917.

BROOKLYN INSTITUTE OF ARTS AND SCIENCES, Brooklyn, N. Y.:

Annual Report, Museum News and Quarterly.

CARNEGIE INSTITUTION OF WASHINGTON, Washington, D. C.:

Special Papers.

CHILDREN'S MUSEUM, Bedford Park, Brooklyn, N. Y.:

Bulletin for 1917.

EDISON, THOMAS A., INC., New York, (through Mr. L. W. McChesney, Manager):

Motion picture film of sea horses.

JENNINGS, MR. G. E., New York City:

"Fishing Gazette."

MELLEN, IDA M., Brooklyn, N. Y.:

"Fresh Water Algae," by M. C. Cooke.

"Turton's British Shells."

"Some Egg-Laying Habits of Amphitrite Arnata Verrill," by J. W. Scott.

Papers on seaweeds and marine algae, by Howe, Underwood and Foslief.

MACCALLUM, DR. G. A., New York City:

Report of Ontario Fish and Game Commission for 1892.

NATIONAL MUSEUM, Washington, D. C.:

Bulletin for 1917.

POYSER, W. A., Editor, Philadelphia, Pa.:

"Aquatic Life," 1915-1916-1917.

ROYAL ITALIAN OCEANOGRAPHIC COMMITTEE, Messina, Italy:

"Objects and Work of the Oceanographic Committee."

SMITH, PROF. BERTRAM S., Ypsilanti, Michigan:

"Guide to the Study of the Frog."

SMITHSONIAN INSTITUTION, Washington, D. C.:

Special Papers for 1917.

STATE MUSEUM, Albany, N. Y., (through Dr. John M. Clarke, Director):

"Aquatic Insects of New York."

TOWNSEND, CHARLES H.:

"The Crocodilians, Lizards and Snakes of North America," by Edward D. Cope.

U. S. BUREAU OF FISHERIES, Washington, D. C.:

Report and Bulletins for 1917.

WINGATE, MR. HAROLD, New York City:

"Proceedings of the Philadelphia Academy of Natural Sciences."

CHARTER

OF THE

NEW YORK ZOOLOGICAL SOCIETY

CHAPTER 135, LAWS OF 1895.

AN ACT to incorporate the New York Zoological Society and to provide for the establishment of a zoological garden in the city of New York.

As amended by Chapter 146 of the Laws of 1902; and by Chapter 240 of the Laws of 1910.

See Chapter 432 of the Laws of 1900.

See Chapter of the city of New York, Section 626 of the Laws of 1901.

The People of the State of New York, represented in Senate and Assembly, do enact as follows:

SECTION 1. Charles A. Dana, Oswald Ottendorfer, Andrew H. Green, William H. Webb, Henry H. Cook, Samuel D. Babcock, Charles R. Miller, George G. Haven, J. Hampden Robb, Frederick W. DeVoe, J. Seaver Page, Rush C. Hawkins, David James King, Wager Swayne, Charles A. Peabody, Jr., Charles E. Whitehead, Charles R. Flint, Samuel Parsons, Jr., Mornay Williams, Henry E. Gregory, Isaac W. Maclay, Isaac Rosenwald, Hugh N. Camp, Andrew D. Parker, Cornelius Van Cott, William F. Havemeyer, Frederick Shonnard, William W. Thompson, Alexander Hadden, Edward L. Owen, John H. Starin, Rush S. Huidekoper, William W. Goodrich, Albert H. Gallatin, Frederick S. Church, Edward C. Spitzka, Robert L. Niles, Madison Grant, C. Grant La Farge, William Van Valkenburg, and such other persons as may, under the provisions of its by-laws, become members of the corporation hereby created, are hereby created a body corporate and politic, by and under the name of the New York Zoological Society.

SEC. 2. Said corporation shall have power to establish, maintain and control zoological parks, gardens, or other collections for the promotion of zoology and kindred subjects, and for the instruction and recreation of the people. Said corporation may collect, hold, and expend funds for zoological research and publication, for the protection of wild animal life, and for kindred purposes, and may promote, form, and co-operate with other associations with similar purposes, and may purchase, sell, or exchange animals, plants, and specimens appropriate to the objects for which it was created.

SEC. 3. The managers of said corporation shall have power to make and adopt by-laws for the management and government of its affairs and business, for the admission, suspension, and expulsion of its members, and for the terms and conditions of membership; to prescribe the number and mode of election of its officers; to define their duties; to provide for the safe-keeping of its property, and from time to time to alter and modify its By-laws.

SEC. 4. The affairs and business of said corporation shall be managed and controlled by a board of managers, the number of whom shall be prescribed by the by-laws. The first board of managers shall be divided by lot into three classes, equal in number, one of which classes shall hold office for one year, another for two years, and the other for three years; and all persons elected to be managers at any subsequent election shall hold office for three years, and until others are elected in their stead. There shall be a president, two vice-presidents, treasurer and secretary, to be elected by the board of managers annually, who shall hold office until others are elected in their stead. The first meeting under this act may be held at any time upon a notice of five days, signed by any five of the incorporators named in the first section of this act, fixing a time and place for such meeting, a copy whereof shall be mailed to each of said incorporators at his usual post-office address, and twelve of such incorporators shall be a quorum for the purpose of organization, adoption of by-laws, and election of officers. No manager of said corporation shall be interested, directly or indirectly, in any contract concerning its property or affairs.

SEC. 5. Said corporation may raise money by the issue of bonds, secured by a mortgage on any or all of its property not acquired from said city or state.

SEC. 6. Said corporation may take, purchase, and hold real and personal estate necessary for the purpose of its incorporation, and shall possess the general powers and be subject to the restrictions and liabilities prescribed in Article II of Chapter 23 of the Consolidated Laws, entitled "General Corporation Law," being chapter 28 of the Laws of 1909.

SEC. 7. The commissioners of the sinking fund of the said city are authorized in their discretion to allot, set apart, and appropriate for the use of said corporation, any of the lands belonging to said city north of One Hundred and Fifty-fifth street, but not in the Central Park, and such appropriation may be revoked if, after the expiration of five years from the passage of the act, a zoological garden is not established thereon; said grounds thus set apart and appropriated shall be used for no purpose whatsoever except those aforesaid. As soon as any lands are set apart the Mayor of the said city of New York, and the President of the Department of Parks of said city, shall become and be *ex-officio* members of the board of managers of said corporation. If at any time the animals now composing the menagerie at Central Park shall be removed therefrom by the authorities having charge thereof, said authorities may make an arrangement with the incorporators named in this act or the corporation formed by them for leasing or sale of such animals to such incorporators or corporation, and said incorporators or corporation shall have a preference over any other person or corporation in respect thereto upon the same terms which said authorities could make with any such other person or corporation, or upon such other terms as to such authorities may seem proper, but nothing herein provided shall be construed as giving the commissioners of the Department of Public Parks authority to sell, lease, transfer, or in any other wise dispose of said animals or other property connected with or belonging to said menagerie.

SEC. 8. Admission to the said gardens shall be free to the public for at least four days, one of which shall be Sunday, in each week, subject to such rules and regulations as shall be prescribed by said corporation.

SEC. 9. This act shall take effect immediately.

AN ACT to amend chapter four hundred and thirty-five of the laws of eighteen hundred and ninety-five, entitled "An act to incorporate the New York Zoological Society and to provide for the establishment of a zoological garden in the City of New York" in relation to real and other property.

Became a law May 26, 1917, with the approval of the Governor. Passed, three-fifths being present.

ACCEPTED BY THE CITY.

The People of the State of New York, represented in Senate and Assembly, do enact as follows:

SECTION 1. Chapter four hundred and thirty-five of the laws of eighteen hundred and ninety-five, entitled "An act to incorporate the New York Zoological Society and to provide for the establishment of a zoological garden in the City of New York," as amended by chapter two hundred and forty of the laws of nineteen hundred and ten, is hereby further amended by adding thereto a new section to read as follows:

7-a. The board of estimate and apportionment in the City of New York may, in its discretion, set apart and appropriate upon such conditions as it may deem expedient for the extension and development of the work and objects of the said New York Zoological Society, the whole or any part of that portion of Bronx Park in the City of New York, lying to the south of Pelham avenue and Pelham parkway, for the use of the said New York Zoological Society, the said lands so to be appropriated to be described particularly in the order of the board of estimate and apportionment hereby authorized. The said board of estimate and apportionment may also, in its discretion at the time of setting apart and appropriating said lands or any part thereof to the New York Zoological Society, and annually thereafter, in addition to any sum or sums which it may have appropriated for the support and maintenance of the New York Zoological Park, appropriate to the use of said society, such sum or sums in its discretion for the care and maintenance of the additional lands that may be allotted to the said society under the authority hereby conferred, as it may deem best.

2. This act shall take effect immediately.

NEW YORK ZOOLOGICAL SOCIETY

AND THE

NEW YORK AQUARIUM

CHAPTER 441, LAWS OF 1902.

AN ACT to authorize a further appropriation to the New York Zoological Society for the support of the New York Aquarium.

As amended by Chapter 239 of the Laws of 1910.

The People of the State of New York, represented in Senate and Assembly, do enact as follows:

Chapter four hundred and forty-one of the laws of nineteen hundred and two, entitled "An act to authorize a further appropriation to the New York Zoological Society for the support of the New York Aquarium," is hereby amended to read as follows:

SECTION 1. The Board of Estimate and Apportionment of the City of New York may annually, in its discretion, include in the budget for the then next ensuing financial year, in addition to any sum or sums which may be appropriated for the adequate support and maintenance of the New York Zoological Park or gardens, situated in the borough of the Bronx, and administered and controlled by the New York Zoological Society, a further sum or sums, in its discretion, for the use of the said New York Zoological Society, provided, however, that the additional appropriation hereby authorized shall be made only in case an agreement is entered into between the said New York Zoological Society and the City of New York, acting by its Board of Estimate and Apportionment for the adequate keeping, maintenance, extension, preservation and exhibition of the building and approaches thereto and collection of aquatic animals and plants contained therein, known as the New York Aquarium, situated in the Battery park in the Borough of Manhattan in said city, and also for furnishing opportunities for study, research and publication in connection with said collections, which contract the said Board of Estimate and Apportionment is hereby expressly authorized, in its discretion, to make upon such terms and conditions as may be agreed upon with the said New York Zoological Society, and which contract shall also provide how the duty of the commissioner of parks for the borough of Manhattan and Richmond in respect to maintaining the said aquarium now imposed upon him by law shall be performed.

SEC. 2. This act shall take effect immediately.

BY-LAWS.
OF THE
NEW YORK ZOOLOGICAL SOCIETY

AMENDED TO JANUARY 21, 1914.

ARTICLE I.

MEETINGS OF THE SOCIETY.

SECTION 1. The office and place of business of the New York Zoological Society shall be in the City of New York, unless otherwise ordered.

SEC. 2. The Society shall hold its annual meeting for the election of Managers, and other business, on the second Tuesday of January, or such day thereafter during the month of January to which said annual meeting shall adjourn.

SEC. 3. Special meetings of the Society shall be called by the Secretary, upon the request of the President or the Chairman of the Executive Committee, or at the written request of ten members.

SEC. 4. Notices of all meetings shall be mailed to each member of the Society at least three days before such meeting.

SEC. 5. At meetings of the Society twenty members shall constitute a quorum.

SEC. 6. The order of business shall be as follows:

1. Roll Call.
2. Reading of minutes not previously read.
3. Report of Executive Committee.
4. Report of Secretary.
5. Report of Treasurer.
6. Report of the Director of the Zoological Park.
7. Report of Director of the Aquarium.
8. Election of Managers.
9. Communications.
10. Miscellaneous business.
11. Reports and resolutions.

ARTICLE II.

BOARD OF MANAGERS.

SEC. 1. The Board of Managers shall consist of thirty-six members, together with the Mayor of New York and President of the Park Board, or Commissioner for the Bronx, who shall be members *ex-officio* of the Board.

Sec. 2. Nineteen Managers shall constitute a quorum, but ten Managers may transact current business, and adjourn, subject to the subsequent approval of a meeting at which a quorum shall be present.

Sec. 3. The Board of Managers shall hold an annual meeting on the third Tuesday of January, or on such day thereafter to which said annual meeting shall adjourn. Regular meetings of the Board may also be called by the Secretary on the third Tuesdays of October and April upon the request of the President or Chairman of the Executive Committee. Special meetings of the Board shall be called at any time by the Secretary upon the request of the President or Chairman of the Executive Committee, or at the written request of five managers.

Sec. 4. Notices of meetings of the board shall be mailed to each Manager at least three days before such meetings.

Sec. 5. The successors to the outgoing class of Managers shall be elected by the Society at its annual meeting, but vacancies in the board may be filled for the unexpired term by the Board of Managers, or by the Executive Committee.

Sec. 6. A Nominating Committee shall be annually appointed by the Executive Committee, and shall consist of three members of the Society at large, who shall nominate and post ten days before the annual election the names of twelve persons to succeed the outgoing class of Managers in a conspicuous place in the office of the Society.

Sec. 7. No person shall be eligible for the election of the Board of Managers except to fill vacancies, unless his name shall have been posted as a candidate by such committee, or by not less than ten members, in writing, in a conspicuous place in the office of the Society ten days before the annual election. All candidates for election as Managers must be Life Members, Patrons, Associate Founders, or Founders of the Society.

Sec. 8. Any Manager who shall fail to attend three consecutive meetings of the Board, unless excused by a vote of the Board, shall cease to be a Manager.

Sec. 9. The Board of Managers shall at its annual meeting elect a President, two Vice-Presidents, a Secretary, and Treasurer, who shall hold office for one year, or until their successors are elected. The President, Vice-Presidents, and Treasurer shall be members of the Board.

Sec. 10. The Director of the Zoological Park, the Director of the Aquarium, and all other persons employed by the Society, shall be appointed by the Board or by the Executive Committee, and shall hold office during the pleasure of the Board.

Sec. 11. The Board shall, at its annual meeting, elect an Executive Committee and Auditing Committee, which shall hold office for one year, or until their successors are elected. The Board of Managers and the Executive Committee shall also have authority to appoint such other Committees or officers as they may at any time deem desirable, and to delegate to them such powers as may be necessary.

Sec. 12. The order of business of the meetings of the Board shall be as follows:

1. Roll Call.
2. Reading of minutes not previously read.
3. Report of Executive Committee.
4. Report of Secretary.
5. Report of Treasurer.

6. Report of Auditing Committee.
7. Report of Director of Zoological Park.
8. Report of the Director of the Aquarium.
9. Election of Officers.
10. Election of Committees.
11. Election of new members.
12. Communications.
13. Miscellaneous business.

SEC. 13. All reports and resolutions shall be in writing, and the ayes and nays may be called on any resolution at the request of one Manager.

SEC. 14. Whenever the funds of the Society shall permit, the Board of Managers or the Executive Committee may award medals or other prizes for meritorious work connected with the objects of the Society.

ARTICLE III.

OFFICERS.

SEC. 1. The officers of the Society shall consist of a President, two Vice-Presidents, a Treasurer, a Secretary, and a Director of the Zoological Park. These officers, with the exception of the Director, shall be elected at the annual meeting of the Board of Managers, but any vacancy may be filled for an unexpired term by the Board of Managers, or by the Executive Committee, until the next annual election.

SEC. 2. The President shall preside at all meetings of the Board and of the Society, and shall be *ex-officio* a member of the Executive and Auditing Committees.

SEC. 3. The Vice-Presidents shall, in the absence of the President, perform his duties and possess his powers, acting in the order of their election.

SEC. 4. The Treasurer shall receive, collect and hold, subject to the order of the Board of Managers, or the Executive Committee, all dues, subscriptions, warrants from the City, fees and securities. He shall pay all bills as ordered by the Board of Managers or the Executive Committee, and shall report to the Society at its annual meeting, and to the Board of Managers at all regular meetings, and to the Executive Committee at each meeting. He shall keep all moneys and securities in some bank or trust company to be approved by the Board of Managers or Executive Committee. The books of the Society shall at all times be open to the inspection of the Managers.

SEC. 5. The Secretary shall be a salaried officer of the Society. He shall be present, unless otherwise relieved by the Board or Executive Committee, at all meetings of the Society, of the Board and of the Standing Committees. He shall keep a careful record of all proceedings, shall have the custody of the seal, archives and books, other than books of account, and shall conduct the correspondence of the Society. He shall issue all notices and tickets, and shall perform such other duties as the Board may direct. He shall be a member *ex-officio* of the Executive, Aquarium, and Auditing Committees, and of the Scientific Council.

SEC. 6. The Director of the Zoological Park shall be elected annually by the Executive Committee at a salary to be determined by said Committee, and shall hold office until removed or his successor chosen by said Committee. He shall

be the responsible administrative officer of the Park, and shall recommend to the Executive Committee candidates for the various positions in the Park. He shall also perform all such other duties in connection with the business, scientific, and literary administration of the Society as may be assigned to him by the Executive Committee.

SEC. 7. The Director of the Aquarium shall be elected annually by the Executive Committee, and shall hold office until removed or his successor is chosen by said Committee. He shall be the responsible administrative officer of the Aquarium, and shall recommend to the Executive Committee all candidates for positions in the Aquarium. The director of the Aquarium shall be *ex-officio* a member and Chairman of the Aquarium Committee. He shall perform such other duties in connection with the Aquarium as may be assigned to him by the Executive Committee.

ARTICLE IV.

COMMITTEES.

SEC. 1. There shall be two standing committees, the Executive Committee and the Auditing Committee, which shall hold office for one year or until their successors are elected.

SEC. 2. The Executive Committee shall consist of seven Managers, together with the President and Secretary of the Society *ex-officio*. Four members shall constitute a quorum, and all meetings shall be called by the Chairman. The Executive Committee shall fill all vacancies in its own number and shall have the full powers of the Board of Managers, except so far as such delegation of power may be contrary to law.

SEC. 3. The Executive Committee shall have the control and regulation of the collections, library, and all other property of the Society, and shall have power to purchase, sell, and exchange specimens and books, to employ and control all officials and employees of the Society, Park, and Aquarium, and generally to carry out in detail the directions of the Board of Managers and the terms of any contract between the City, or Park Board, and the Society.

SEC. 4. All the rules and regulations for the examination of applicants for the various positions in the Park and Aquarium shall be made or approved by the Executive Committee.

SEC. 5. The Executive Committee may regulate the auditing and payment for all current accounts.

SEC. 6. The Executive Committee shall annually appoint an Aquarium Committee, whose duties and powers are set forth in Section II of Article IV of these By-Laws.

SEC. 7. The Executive Committee shall annually appoint a Nominating Committee, whose duties and powers are set forth in Sections 6 and 7, Article II, of these By-Laws.

SEC. 8. It shall also appoint a Scientific Council, whose powers and duties are set forth in Section 2 of Article V of these By-Laws.

SEC. 9. The Committee shall make a written report at each regular meeting of the Board of Managers.

SEC. 10. The Auditing Committee shall consist of three regular members of the Society, in addition to the President and Secretary, members *ex-officio*, and vacancies shall be filled by the Executive Committee. It shall be the duty of

the Auditing Committee to audit, annually, the accounts of the Treasurer, of the Director of the Zoological Park, and of the Director of the Aquarium, and any other accounts of the Society, and shall report to the Board of Managers at its annual meeting.

SEC. 11. The Executive Committee shall annually appoint an Aquarium Committee, not to exceed eight members of this Society, who shall hold office until their successors are chosen. All vacancies shall be filled by the Executive Committee. The Director of the Aquarium shall be *ex-officio* a member and the Chairman of the Aquarium Committee, and such Committee may vest in him any or all of its powers. The Chairman of the Executive Committee and the Secretary of the Society shall also be *ex-officio* members of the Aquarium Committee. Three members shall constitute a quorum. The Executive Committee may delegate to the Aquarium Committee such powers as it may deem proper.

ARTICLE V.

SCIENTIFIC COUNCIL.

SEC. 1. The Executive Committee shall annually appoint a Scientific Council of not more than ten members, and shall fill all vacancies. Members of the Council shall hold office until their successors are appointed.

SEC. 2. The duties of the Council shall be to act as an advisory board in all matters pertaining to the scientific administration of the Society, and especially as to the scientific features of the Park, the promotion of zoology by publications and otherwise, and the preservation of the native fauna of America.

SEC. 3. Four members, including the Chairman, shall constitute a quorum. The Chairman shall be elected annually by the Council. The Chairman of the Executive Committee and the Secretary of the Society shall be members *ex-officio* of the Council.

ARTICLE VI.

MEMBERS.

SEC. 1. The present members and such others as shall become associated with them, under the conditions prescribed by the By-Laws, shall be members of this Society as long as they shall comply with the By-Laws.

SEC. 2. Members failing to comply with these By-Laws, or for other good and sufficient cause, may be expelled from the Society by the Executive Committee.

SEC. 3. Candidates for membership shall be proposed and seconded by members of the Society. The name, occupation, and place of residence of every member as proposed shall be submitted for election to the Board of Managers or the Executive Committee, and such person, when elected, shall become a member upon payment of the annual dues, or of the fees as prescribed below.

SEC. 4. There shall be a class known as Fellows, which shall consist of members of the Society who have rendered marked services to science, and shall be chosen by the Executive Committee. The privileges of Fellows shall be in all respects the same as those of regular members of the Society, but they shall be exempt from the payment of annual dues.

SEC. 5. The annual dues shall be ten dollars, payable in advance, on the first day of May of each year, but the Executive Committee may remit the dues

for the current year in the case of members elected between January 1st and May 1st of each year. The classes of membership shall be as follows:

SEC. 6. The payment of \$200 at one time shall constitute any member a Life Member.

A member who has paid annual dues for a period of five years may thereafter, at any time, upon the payment of the difference between the amount of dues already paid and \$200, become a Life Member, but such payment shall be not less than \$100.

SEC. 7. The payment of \$1,000 at one time, or in the case of a Life Member, of \$800, shall constitute any member a Patron.

SEC. 8. The payment of \$2,500 at one time, or in the case of a Patron of \$1,500, or of a Life Member of \$2,300, shall constitute any member an Associate Founder.

SEC. 9. Any member who shall donate to the Society \$5,000, or property of equal value, or any Associate Founder who shall donate \$2,500, or any Patron who shall donate \$1,000, may be elected by the Board of Managers or Executive Committee a Founder.

SEC. 10. Any member who shall have donated to the Society ten thousand dollars (\$10,000), or its equivalent, may be elected by the Board of Managers or the Executive Committee a Founder in Perpetuity. Such Founder in Perpetuity shall have the power to designate by a last will and testament his successor, who shall thereupon be entitled to all the rights and privileges of the original Founder in Perpetuity, including the right of designating in turn his successor.

SEC. 11. Any member who shall have donated to the Society \$25,000, or its equivalent, may be elected by the Board of Managers, or the Executive Committee, a Benefactor. Benefactors shall have the rights and privileges of a Founder in Perpetuity.

SEC. 12. Persons who have rendered marked service in the science of zoology or natural history may be elected Honorary Members, but not more than three such Honorary Members shall be elected in any one calendar year.

SEC. 13. A resident member who shall have rendered marked scientific or professional services to the Society in any branch of its work may be elected by the Executive Committee a Life Member, Patron, Associate Founder, or Founder. A resident of New York who shall have rendered marked service in zoology or natural history may be elected by the Executive Committee a Permanent Fellow.

SEC. 14. Non-residents who communicate valuable information to the Society, or who have rendered marked service in the science of zoology or natural history, may be elected Corresponding Members.

SEC. 15. Benefactors, Founders in Perpetuity, Founders, Associate Founders, Patrons, Life Members, Honorary Members, Permanent Fellows, Fellows, and Corresponding Members shall be exempt from annual dues.

ARTICLE VII.

PRIVILEGES OF MEMBERS.

SEC. 1. A member's ticket admits the member and his immediate family to the Park on reserve days, and to all lectures and special exhibitions, and may be used by the member's immediately family, and shall be good for the current year.

SEC. 2. Admission tickets to the Park and Aquarium on reserve days are issued to members for distribution, and are good for the current year.

SEC. 3. Each member of the Society is entitled annually to a member's ticket and to ten admission tickets.

SEC. 4. Each member shall also receive one copy of the catalogue or handbook, the report and official publication of the Society, and shall have all the privileges of the Library and Members' Building.

SEC. 5. No member shall be entitled to the privileges enumerated in this Article unless his annual dues shall have been paid.

SEC. 6. The Life Members shall have all the privileges of members and ten additional admission tickets.

SEC. 7. Benefactors, Founders in Perpetuity, Founders, Associate Founders and Patrons shall have all the privileges of Life Members, and shall in addition receive copies of all scientific works published by the Society.

SEC. 8. Any member who shall fail to pay his annual dues within three months after the same shall have become due, and after notice of thirty days, by mail, shall cease to be a member of the Society; subject, however, to reinstatement by the Board of Managers or Executive Committee for good cause shown.

SEC. 9. Any person elected to membership who shall fail to qualify within three months after notice of his election shall be considered to have declined his election; but such term may be extended by the Board of Managers, or Executive Committee.

ARTICLE VIII.

FINANCES.

SEC. 1. The fiscal year of the corporation shall be the calendar year commencing January 1st and ending December 31st.

SEC. 2. Neither the Society nor any of its Managers or Officers shall contract any debt which, with existing debts, shall exceed in amount the funds then in the Treasury, except to meet expenditures for which the City is liable, and for which the Society will be reimbursed by warrants from the Comptroller's office.

ARTICLE IX.

AMENDMENTS.

SEC. 1. Amendments to these By-Laws may be proposed, in writing, at any meeting of the Board of Managers, and adopted by unanimous consent of the Managers present, or if such proposed amendment shall fail to receive unanimous consent, the Secretary shall, with the notices of the next meeting, send a copy of it to each Manager and state that it will be brought up for action at such meeting, when it may be passed by a majority vote.

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